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THE UNRELIEVED AFTER SURGICAL OPERATION*

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SURGERY began as a forlorn hope. To its court of last resort were summoned only patients whose initial injuries seemed fatal or whose ailments had baffled medical skill and care. In this narrow field failures were many. Operations of election were rare indeed. It is then perhaps only natural that success was rated solely from the percentage of survivors.

Anaesthesia and asepsis loosed the bounds. Operations of election were dared with startling results, Manual skill, perfected technique, and specialized instruments ever enlarged the scope of endeavor. And so attractive was the new realm, so appealing to human daring, so satisfying to manual dexterity, that yearly there was a bumper crop of surgeons. Operations ill advised, even unindicated, were survived, and by that criterion alone were justified. Tradition died hard: if the patient lived the operation was a success; if he died, a failure. The pity of the era was that, thanks to the inherent virtue of human tissue to withstand manhandling, the casual, even the cross-road surgeon, was able to boast of mortality tables only little higher than those of renowned surgeons.

But this age of surgical glamour has waned. The day of the mere operator whose interest began with the knife and ended with the needle, proud of his dexterity, concerned only with the life or death of his patients, has passed. In his stead is the surgeon, grievously aware of a realm between the quick and the dead wherein dwell the unimproved, the Hadian abode of the unrelieved. In this but recently charted region the victims of unnecessary, ill advised, or incompetent surgery endure an unsavory existence, dupes of uncurbed zeal and ruthless daring.

From thoughtful surveys of this same disastrous field, however, has come most valuable knowledge. Painstaking, often discouraging, follow-up of patients has pointed out the reasons for the unimproved, and has shown the ways to lessen their numbers. Wholly aside from the question of life and death every surgical operation is barbed with treacherous hazards that must be heeded. Will the procedure confer relief? In operations of necessity this risk must of course be taken; but in all operations of election it should court consideration equal at least to that bestowed on the fortuity of life or death. Constructive surgery must concern itself with morbidity. If operation offers only a minimal risk of death but denies tolerable chance of improvement, the hazard is not justified. Mortality tables foretell pretty accurately the gamble of life or death; morbidity statistics are coming to be equally prophetic omens of future health and comfort. By no means is the book closed when the patient leaves the hospital. That he is alive, restored to his family, to his daily tasks, warrants it is true a sizeable entry on the credit side of the surgical ledger. Larger still is the credit when after due convalescence the patient feels better than he did before. To the glory of surgery be it said in all modesty that such a happy outcome is by no means rare. Were it not so the art would long since have been cast into deserved disrepute.

That the balance is, however, not always on the credit side is not only true but inevitable. Traumatic amputations, limbs torn and mangled beyond salvage, ruptures and tears of vital organs, and rampant malignant growths too often leave the surgeon no choice but a mutilating operation sure to bequeath morbidity. All such are exigencies beyond human control and throw no discredit on surgeons or surgical art. The same can be said of empyema, osteomyelitis, joint tuberculosis, and the like, oft healing with disfiguring, sometimes painful, morbidities, due as frequently, however, to the primary disease as to surgical intervention.

It must be granted then that there is an irreducible minimum of surgical morbidity. Not all its factors, however, are obvious. Some are most subtle and unpredictable, menacing hazards that defy human fore-sight. Such for example is peritoneal adhesion. The peritoneum resents insult, and its resentment takes the form of adhesions which in number and density are usually in direct proportion not only to the extent and violence of the disease but also to

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the amount and roughness with which the membrane is handled. Fortunately adhesions are more often than not innocuous. There are, however, certain unheralded individuals whose peritoneums, but slightly marred by disease and ever so gently handled, ne'ertheless throw out such masses of fibrous exudate that they have been dubbed adhesion formers. Now and then also one or two bands form so cruelly that they kindle unbearable discomfort, even urgent calamities, that beg relief by further operation. The adhesion peril is ever then a potential source of morbidity, many of whose factors balk at control; but better technique, gentler manipulation, and wiser curtailing of interference have probably shrunk this risk to a minimum.

The liability of post-operative hernia is another threatening menace. Thanks to better suture material and more careful closure of wounds this risk has also been deeply pared. There are patients, however, whose aged or devitalized tissues have to some considerable degree lost tone and reparative power; others in whom hasty and inaccurate closure becomes suddenly imperative; and many in whom drainage more or less prolonged is compulsory, that multiply the chances of later hernia. Most of these exigencies can be foreseen and should therefore, be seriously conned in forming the decision for or against operation.

Malignant disease fosters a unique morbidity, sinister and baffling, always foreboding. However well and widely removed there is no criterion by which local or distant flare-ups from some over-looked, smouldering focus can be forefended; but the longer the growth sprouts unrecognized or untreated the greater is the expectancy of recurrence. Until much more is known about cancer, especially its cause and life history, but little trimming of its morbidity can happen. For the present recurrence of this disease, primarily a local affair, can be barred only by earlier diagnosis and more prompt treatment nicely adapted to the needs of each individual. Of the latter it can be said that surgical attack on cancer has quickened by leaps and bounds that have already far outstripped the crawling gain in early diagnosis. Improved technique annually widens the limits of operability and permits fewer recurrences after operation on growths further advanced than were those the year previous. Put to it to devise procedures to over-ride the handicaps of late diagnosis and tardy appeal to surgery, surgeons have responded with techniques safe and efficient. Whatever lessening of morbidity has been thus brought about is owed to intrepid surgical attack, and the honor of achievement belongs rightfully to dauntless surgeons of ingenuity and skill.

Early diagnosis of malignant disease treads a faltering pace. Fear of the truth; delay and apathy in seeking diagnosis; misplaced optimism; and wanton fatalism, all cheat early diagnosis. While publicity and free cancer clinics may have awakened some response from the laity, the feeling is more or less general that results do not match efforts. Perhaps when the cause of malignancy is known, and positive in lieu of negative knowledge can be sown, the laity will seek advice more promptly.

Without doubt, however, the most disheartening side of the morbidity problem in cancer is the culpable tendency of timid physicians to dally with doubtful growths. Biopsy of accessible tumors is warranted by the suspicion of malignancy. Breast tumors at all ages and uterine bleeding after the menopause—two of the more common plights—are best looked upon as malignant until proved otherwise. With hidden growths whose intimations are maliciously delayed the problem of their early detection oft surtaxes human acumen. Cancer of the gastro-intestinal tract, for example, would seem to lend itself most hopefully to surgical measures because of its slow development and trend long to remain localized; but these very properties tend as well to hide its being. At the upper and lower ends of the alimentary tube early detection is easiest, but here the technical difficulties of removal are greatest; and conversely in the mid gut operation is easiest, early diagnosis most difficult. This trying conflict, most tense in the stomach, is there singularly enough rather hopeful; for traditional conceptions of gastric malignancy are in the throes of promising revision. New indigestion symptoms in a person past middle life, persistent, with subacidity, and unrelieved by food, forge a syndrome that is becoming very suggestive of gastric cancer. More prompt and frequent exploration is surely justified; since gastric resection for early malignancy has a low mortality and a perhaps better than even chance of no morbidity. In cancer of the large bowel multiple stage tactics confer an operative mortality equally low; and the comparative ease and frequency of early diagnosis cuts the liability of recrudescence decidedly.

For all their gracious titles benign lesions are by no means free of morbidity. Many of them bristle stiffly with their own spiteful array of harmful sequences. Peptic ulcer, for example, is prone to reform after operation, and operation when unwisely chosen or loosely done may easily saddle the patient with an added but equally annoying pack of symptoms. The gamut of techniques for peptic ulcer, ranging from gastro-enterostomy through excision to gastrectomy, and the sometimes petulant bickerings over the indications for each, are no lesser proofs of surgical uncertainty than are the divers diets and regimens of equally contentious medical men for the same ailment. In good earnest surgeons and internists alike find themselves in the same boat adrift on an uncharted sea, bound they know not whither, blown about willy nilly by shifting winds of enthusiasm, lured

this way and that by fitful beacons whose flickering rays prove as often baneful as benevolent. And so, comrades in adversity on an unknown course a happy spirit of coöperation has arisen that holds forth promise of better things. The mutual agreement that surgical treatment of peptic ulcer is not indicated until medical means have been faithfully tried and failed has, by curbing operative enthusiasm, brought about no little reduction in morbidity. Heedful respect for proper indications, and mindful regard for narrower limitations, of differing operative procedures have further lessened the numbers of the unrelieved. Gastro-enterostomy, for example, done only on selected patients now awards relief in about ninety per cent. of the cases. Such sources of morbidity after this operation as vicious circles and gastro-jejunal ulcers have in the one instance been done away with, and in the other carved to a meager incidence. The much disputed conversion in the stomach of some simple into malignant ulcers kindles the justification in a few minds for radical resection of that viscus for a benign lesion. Radical operations for benign gastric disorders on this or any other score have yet to stand the test of time before their value or worthlessness can be fixed; for only at some much later period may the final issues of gravely altered physiology become firmly settled. Until such time as technique can be valued and indications accurately drawn the conservative trend of operative interference for peptic ulcer should be fostered as most likely to attain best results.

Much the same awkward perplexity exists in that group of ailments handily classed as gall-bladder disease. Here also the profession is striving not with a primary disorder of known etiology, but with terminal lesions and late symptoms of hidden origin. The attack on staid concepts of gall-bladder disease; the drift to abandon the toil to settle the cause and effect sequence of stones and infection as irrelevant anyway; and the aim to ascribe much of gall-bladder pathology to mechanical circulatory disturbances in that organ, while promising seem for the present merely to add to the confusion. Unlike peptic ulcer cholecystitis, cholelithiasis, etc., reap but little if any lasting benefit from strictly medical management, and surgical treatment is so apt to be disheartening to patient and discouraging to surgeon that the dictum is more or less rife that once a gall-bladder always a gall-bladder. The strife between champions of cholecystostomy and cholecystectomy rages merrily with a katy-did-like monotonous cadence of take it out, leave it in. To make matters worse the pleaders for excision are grappling with each other over the technique of removal and the need for post-operative drainage. The unbiased surgeon sensing the virtues of radical and palliative procedures nevertheless finds himself frequently confronted with the technical impossibility of removing the very gall-bladders that should be excised, driven by the exigencies of the case to content himself with uncoveted drainage. On the other hand after cholecystectomy return of pain months or years later is not uncommon, pain that to all intents and purposes images that preceding operation. The truth of the matter is of course that medical science is as yet only at the threshold of understanding diseases of the liver, its ducts, and of the gall-bladder.

Men talk glibly of hepatitis, strawberry gall-bladders, and of complicating pancreatitis, without full understanding of their import, but merely because these lesions are frequently noted at operation and afford ready bushes behind which sorely puzzled surgeons find good hiding. Hepatitis, it is true, does to a greater or lesser degree attend cholecystitis; but it is noteworthy that such a hepatitis by itself paints no clear picture by which it can be diagnosed. Cholesterosis of the gall-bladder without stones is another equally puzzling bit of pathology of the same order. Pancreatitis is a more or less faithful consort of gall-bladder disease, but whether it is an offspring from infection of that viscus or is a twin lesion of unknown parentage, is still debatable. With so many little understood forces at work it is perhaps a motive for congratulation that morbidity is no greater. That some stones are at times overlooked later to kindle recurrent symptoms is only human. Tardy operation after the ravages of long active infection have permanently enfeebled liver and other tissues likewise renders the likelihood of relief precarious. Statistics of gall-bladder morbidity are exceedingly untrustworthy. Perhaps the nicest figures are a count of those folks undergoing secondary operations, confessing frankly that these figures too are unreliable; for many sufferers whose later pangs are fully as sharp as before the primary operation decline forever more the gamble of surgical relief. Tabulation divulges that from six to fifteen per cent. of all gall-bladder operations are for recurrent troubles; and that the bulk of recurrences are in those patients who first sought surgery only after years of suffering. While cholecystectomy in the early throes of gall-bladder disease wins the lowest morbidity, it by no means follows that this radical operation is to be urged, much less done, for every discomfort in the upper right quadrant. It is well to be wary of removing the gall-bladder without stones. To-day the type of gall-bladder complaint yielding to surgical intervention is that dominated by a history of well-defined attacks of colic. Just so far as the clinical likeness of true biliary colic becomes blurred or shades off into a sketchy caricature of ill-defined digestive disturbances that too many surgeons feign would call the picture of pre-cholelithiasis, so do the end results of operative treatment begin to fail. When pathologists can delineate specific lesions of biliary derangements in orderly sequence, then only can

surgical assault on gall-bladder ailments be direct and rational.

The much abused appendix staggers under a load of morbidity as undeserved as it is ponderous. Poorly trained or youthful surgeons who flinch from nephrectomy, gastrectomy, or splenectomy dare appendectomy with effrontery. In all seriousness be it said appendicitis craves nice judgment far more often than skill; equally often what is poorly done or left undone makes trouble. The family physician who dallies until the disease is ripe forgets that his delay breeds poor general condition and stifles cellular resistance. His wait and see policy usually compels drainage with its stormy convalescence and its aftermath of adhesions. By far the worst stigma unjustly borne is the lazy trend to convict the ready to hand appendix for every uneasiness in the right lower quadrant. Subacute and chronic appendicitis are as often freaks and fantasies of the physician as demonstrable lesions of the patient, and under such misnomers many an innocent appendix, hastily and wrongfully convicted, has been snatched away without benefit. The odium of poor results should in all justice be flung on appendectomy, mal-advised, ill-timed, or crudely done, rather than sully the good name of appendicitis the nice surgical handling of which is one of the great triumphs of modern surgery.

And so the story could run on; but enough has been said on the dark side. There is a far brighter page of surgical morbidity. Nowhere in the realm of the healing art can more radiant outcomes be found than in invalids with hyperthyroidism. When twenty-four hours after operation patients rejoice in a feeling of calm unknown for months; when for the first time in an equal period they are unaware of their hearts; when metabolism that had persisted high while they were under observation drops materially in a few days; and when consistently within the same period every vestige of active intoxication fades away leaving only the feebleness of illness, there can be no belittling the boon conferred. Even more striking is the fact that the benefit endures. Such brilliant achievement was won only after bitter failure. Too little gland sheared away invited recrudescence months or years later; too much lopped off allowed a hypothyroidism that had forever to be fought with thyroid extract medication. Out of disaster has come a standard procedure that insures lasting ease. Thanks to well guided preoperative management with iodine rare indeed is the patient too toxic to thwart conversion into a safe surgical risk. The mortality of thyroidectomy is essentially nil; and what little morbidity there is lies at the door of dilatory tactics that postpone rational intervention until long active toxaemia has irreparably scarred heart, central nervous system, and other tender structures.

Only little less striking is the goal won in prostatic surgery over a trail strewn with tragedies. Equally toxic as thyroid victims success came likewise from preoperative care that postponed often fatal operation until the miracle of conversion had shorn the risk. And this too in the face of the confession that prostatectomy, however performed, is still a crude and unscientific procedure. In lieu of the tottering old man with dry tongue, loss of appetite, rebellious digestion, straining dribbling urine from an over-flow bladder that tortures day and night, there comes forth from the ordeal a detoxicated, happy individual whose nights are given to peaceful slumber, whose days are blessed with youthful bladder control. Such blemishes as persistent sinuses, imperfect control, and nagging cystitis, have been so nearly erased from the picture as to excite surprise when they abide. True, some bladders never wholly clean up but perversely ooze small amounts of pus; some kidneys never completely repair the damage of long-continued back pressure; but these offences are as nothing compared with the miseries they displace.

However welcome and pleasing are the gains in thyroid and prostatic surgery, they pale in size and significance when contrasted with the marvelous feats that have steered the management of surgical diabetes into zones of safety. So miraculous are the rescues by insulin medication that no diabetic need longer be denied the boon of surgery. The rapidly spreading infections prone to persecute the feebly resistant diabetic can now be checked; and dread diabetic gangrene once so fatal and not always conquered even by high amputation may now yield to incision and drainage, or at the most to removal of the dying digit. Gall-bladder disease, of high incidence in glycosuria, is now met surgically with deserved confidence in the outcome. Sluggish wound healing and respiratory infections after operation are no commoner than in persons whose carbohydrate metabolism is normal. The whole doleful picture of diabetic surgery has been retouched and now depicts a pleasing scene of conquest.

And so the eulogy might continue, but enough has been said to show that the answer to the problem of the unrelieved is forthcoming. What has been attained in diabetes, prostatic hypertrophy, notably toxic thyroid states, is by no means to be denied cholecystitis, gastric ulcer, perchance malignancy. In all instances morbidity wavers before early and accurate diagnosis. Preliminary adjustment of deranged body chemistry and preoperative boosting of sluggish but normal physiology further cut the risk; and expert, well-timed surgical attack supplemented by persistently controlled after-care redeems a sizeable quota of unrelieved. Be that as it may, accurate, early diagnosis cannot always be reached solely by rule-of-thumb and bed-side observation, however tried and true these honored methods be, but only after nice correla-

tion of clinical signs with laboratory findings. And preliminary management of surgical risks has become even more a laboratory task. Functional tests of vital organs, chemical blood analyses, and studies of metabolism behaviour, very frequently give timely warning that the clinical picture is not so promising as it appears but needs to be touched up for the ordeal at hand. Postoperative control calls likewise for oft-repeated laboratory determinations as well as for careful note taking, sometimes even active pursuit of the heedless patient. All this postulates more knowledge than one brain can encompass, more time than is allotted to one man. The impassé has been foiled by those surgeons who have girded themselves about with fellow workers, each of whom is specially trained and contributes his findings, all of whom constitute a team pulling together, led and dominated by the surgeon who weighs the evidence, passes judgment, and rightfully shoulders all responsibility. Only to such teamwork are due not only the brilliant achievements of renowned clinics, but as well the no meaner, though unheralded, contributions of many humble but equally earnest toilers. Whenever and wherever co-workers so labor, better work is done, real progress is made, and teams view with satisfaction a dwindling number of unrelieved.

Discussion

Dr. Frank H. Lahey, Boston: I agree with all that Dr. Rice has said in this paper, and I could probably limit my remarks to this statement, but there are one or two points that I would like to speak about, while on this general subject.

We all have gotten to the stage where we look down on the surgeon who is obsessed with the matter of technic, and that is right. Technic in itself, without diagnostic ability and sound judgment, is worse than nothing; it is positively dangerous. On the other hand, we must not, in this disapproving attitude, lose sight of the fact that technic is the basis of the manual part of surgery, and our attitude toward it should be that of the man who was describing an ideal wife. He said: "She should be healthy, companionable and intelligent, and she could be handsome if she could forget it." And the same thing is true about technic.

Another point is that we as surgeons are getting beyond the point where surgeons were some years ago, when they used their hands instead of their heads to make a diagnosis. I can well remember the days when a great many diagnoses were made in a very general way, and often by exploratory operation. The fading of this attitude offers the greatest hope for surgery. Surgeons have been in the past (and I include myself) more or less mechanics, accepting patients from our medical friends with the diagnosis made and unhesitatingly operating upon data unobtained and often uncritically estimated by us. We are getting to the point where we are interested in the diagnosis, and that is of the greatest value. With an interest in the medical or non-technical side of the problem, we become closer to the physician, modifying his radical views about surgery and broadening, possibly, our narrow views about medicine, to the mutual benefit of both, to say nothing of the great value to the patient.

INFANTILE PARALYSIS CASES SHOW DECLINE THROUGHOUT COUNTRY

Infantile paralysis continued to be more prevalent for the week ended December 10, 1927, than it was for the corresponding week of last year, but the incidence of the disease, nevertheless, is steadily declining, the United States Public Health Service announced December 30 in its weekly review on the prevalence of communicable diseases.

For the week ended December 10 of this year, the review showed, health officers of 42 states reported a total of 152 cases of poliomyelitis (infantile paralysis). For the same week of 1926 they reported 31 cases.

Cases of smallpox were slightly more prevalent for the 1927 week, as compared with the week of 1926, while cases of scarlet fever, cases of typhoid fever, and deaths resulting from influenza and pneumonia, declined, as compared with the corresponding week last year.

The full text of the weekly review follows:

The United States Public Health Service has issued the following statement regarding the prevalence of communicable diseases in the United States.

The 98 cities reporting cases used in the following table are situated in all parts of the country and have an estimated aggregate population of more than 30,450,000. The estimated population of the 94 cities reporting deaths is more than 30,260,000. Weeks ended December 10, 1927, and December 11, 1926.

Cases reported.	1927	1926
Diphtheria:		
42 States	2,539	2,429
98 cities	1,196	1,164
Measles:		
41 States	4,649	5,698
98 cities	1,291	1,042
Poliomyelitis:		
42 States	152	31
Scarlet fever:		
42 States	3,473	4,116
98 cities	1,069	1,356
Smallpox:		
41 States	730	679
98 cities	64	63
Typhoid fever:		
42 States	344	467
98 cities	62	73
Deaths reported.		
Influenza and pneumonia:		
94 cities	709	832
Smallpox:		
94 cities	0	0

—*U. S. Daily.*

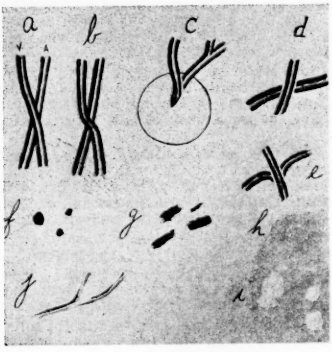
ORIGINAL ARTICLES

FUNDUS CHANGES IN ARTERIOSCLEROSIS AND NEPHRITIS AND THEIR SIGNIFICANCE*

BY WALTER B. LANCASTER, M.D., F.A.C.S.

AS the writer has made no original contribution whatever to our knowledge of fundus lesions, it is evident that your President wishes me to perform the not unimportant function of selecting some of the facts and theories most in need of being emphasized, and presenting them from my point of view.

Of the recent articles that have appeared on this subject I commend as most illuminating and free from erroneous observations and conclusions the writings of Foster Moore and of Benedict and Wagener of the Mayo Clinic. I have drawn freely from them in the preparation of this paper.



In order to concentrate the attention on the details which decide the diagnosis, the illustration shows only isolated features of the fundus picture, viz.:

(a) Normal oblique crossing of a vein over an artery:
(b) The change in such an oblique crossing brought about by sclerosis of the artery = rectangular crossing:
(c) Wall of artery visible where it overlies a vein *on the disc*, often seen in normal eyes:
(d) Visibility of arterial wall, smaller branch not on disc. This is not normal, but shows sclerosis. The wall of the artery obscures the vein which is not visible right up to the dark blood column, as in normal conditions (a):
(e) Vein deflected by overlying artery, which shows sclerosis of its wall obscuring the vein as in (d). Deflection of a vein which curves around an artery is not always due to sclerosis, but may be seen in normal eyes. It is suggestive, however, and if associated, as in this case, with opacity along its border, thus hiding the vein over a space wider than the blood stream, it is definite evidence of arteriosclerosis:
(f) Hemorrhages approximately round, located in deeper layers of retina. Blood has escaped from very small branches:
(g) Hemorrhages striated or flame-shaped located in nerve-fibre layer (superficial often overlie vessels). Blood has escaped from larger branches, all of which lie in this layer:
(h) Tiny white dots, usually discrete, occasionally confluent. Arteriosclerotic retinitis:
(i) Cotton-wool or snow-bank patches. Larger areas of exudate found in nephritis:
(j) Artery with marked sclerosis of wall "pipe stem sheathing" or "silver wire" artery.

*Presented by invitation at the meeting of the Pacific Coast Oto-Ophthalmological Society, June, 1927.

Arteriosclerosis can often be detected in the retina before there is evidence of it in other parts of the body, not because it attacks the retina first, but because the ophthalmoscope so facilitates study of the eye that the vessels in this region can be more readily investigated than those elsewhere. Histologically the changes in the vessel walls consist in marked thickening of the various coats, especially the media and the intima. In the central artery the proliferation of the intima is most in evidence; in the tributary branches the thickening of the media predominates.

Visible Walls. The normal vessel walls are invisible because transparent. When they are sclerosed and thickened, they become visible; in the early stages it is easiest to see this where an artery crosses a vein. The artery conceals the vein not only (as under normal conditions) for the width of the blood stream, but in addition for the width of the vessel walls, because they are now sufficiently opaque. Ordinarily when an artery crosses a vein, the vein is visible right up to the red blood stream, the walls not being seen. In sclerosis the underlying vein is obscured not only for the width of the opaque blood stream, but for a distance each side equal to the thickened arterial wall.

Indentation of veins. Another effect, and one of the most easily recognized, is indentation of the vein by the artery at its crossing. Exceptionally this leads to banking of the blood in the distal portion of the vein, due to damming by the pressure of the artery where it crosses the vein.

Rectangular crossing. Evidence of sclerosis is also seen in the rectangular crossing of a vein under or over an artery where they originally met at an acute angle. As a result of the thickening and increased rigidity of the artery, the course of the vein is changed so that instead of running in a long oblique line across the artery, it takes the shortest path, which is square across. This indicates a well-advanced stage of sclerosis.

Irregularity of lumen. The incidence of the changes in the vessel walls is not uniform in distribution. Where the thickening encroaches on the lumen, the column of blood is narrower. Proliferation of the intima is particularly responsible for the reduction in the lumen, as is seen in cases of obstruction of the retinal vessels.

Copper wire artery is an exaggerated brightness and modified color of the normal reflex streak seen on the retinal arteries and due to the thickened media. It is not easy to be sure that the reflex is more than normally bright, so that this is not a sign to be relied upon.

Tortuosity. When the arterial wall undergoes hypertrophy, it enlarges in all directions. It becomes thicker, but also considerably longer. The increase in length produces tortuosity. The variation in tortuosity in normal vessels in the retina is so great that this is not an important aid in diagnosis.

Cork-screw tortuosity of fine terminal branches of the retinal arteries, especially around the macula, is emphasized by de Schweinitz, as is also the hyperaemia of the disc, which he calls "brick-red" appearance. These are not regarded as important signs by Moore, because they are rather infrequent and also indefinite.

Silver wire arteries. Here the periarteritis has resulted in such thickening and opacity of the vessel wall that the blood stream is hidden beneath the white wall of the artery. The artery looks white, rather than red. Usually this is not uniformly distributed, but shows in patches on one or a few branches. It is a mark of advanced sclerosis. This condition is also called "pipe-stem sheathing." It does not obstruct the lumen.

Hemorrhages in the retina take their form from their site. If located in the superficial nerve fibre layer, where all except the finest branches of the vessels are situated, the blood spreads between the nerve fibres in flame-shaped, striate, radiate hemorrhages. If the bleeding takes place in the deeper layers of the retina, the shape of the hemorrhage is approximately round, since the anatomical structure permits the blood to spread in all directions with equal facility.

As a general rule, to which there are very many exceptions, the hemorrhages due to vascular disease (arteriosclerosis with hypertension) take the flame-shaped form because they are situated in the superficial layer. They are most numerous also in the posterior part of the eye, where the retinal vessels are larger. On the other hand, the hemorrhages which are of toxic origin, such as those occurring in purpura and other blood diseases, and in diabetes and nephritis, are typically the small, round, deeper-seated ones. Hemorrhages in diabetes or nephritis of vascular, not toxic, origin, would, according to this classification, be in the nerve fibre layer and therefore flame-shaped. These small retinal hemorrhages are absorbed in a matter of a few months; but new ones are being formed, so that the picture is not much altered.

If we take the early changes in the vessel walls as the first stage of arteriosclerosis, the presence of hemorrhages is the next; and that is followed later by the appearance of tiny white spots or dots. This is *arteriosclerotic retinitis.* The white spots are small, less than the thickness of a primary retinal vein in diameter, not numerous at first but later they increase in number and may become confluent, forming good-sized patches. They are frequently limited to one eye for a long time, whereas the white spots or patches of renal origin are rarely limited to one eye for more than a short time in the earliest stages.

Histologically, these white spots seem to be composed of hyaline material and to be situated deep in the retina. Their composition does not include fatty material, as do most of the spots of renal retinitis. That is, in arteriosclerotic retinitis there is a hyaline degeneration; and in renal retinitis a fatty degeneration as well. In the case of arteriosclerotic retinitis it seems probable that the obstruction to the blood supply (ischemia) is a causative factor in the production of the white spots. In renal retinitis toxic agents are more in action. The two are so often interacting and combined that the classification is given as suggestive, not rigid.

In advanced sclerosis the lumen may be so encroached upon that the blood supply beyond is precarious. Any slight spasm at a point where the lumen is already small may so reduce the blood supply beyond as to produce scotoma, due to the ischemia, even in spite of a high blood pressure in the brachial artery. For, as Foster Moore has shown, the intra-arterial pressure in the retinal arteries may be quite low when the general arterial tension is high. Again, any cause reducing the general blood pressure may so far lower the pressure in the obstructed retinal arteries as to produce sufficient ischemia for symptoms to appear. This may be transient, or last some time. In patients with arteriosclerosis it is a rather common symptom. They complain of a blur coming over the page so that they have to stop reading. After a few minutes' rest, the sight is recovered. Sometimes careful questioning will bring out conditions, such as fatigue, calculated to favor the transient ischemia. Sometimes the blur may be due to ischemia in the brain, not in the retina.

As sclerosis of the retinal vessels advances, the terminal complication is such obstruction to the flow as to cause complete occlusion. Obstruction in the retinal veins is due to disease of the vessel wall (phlebitis), often aided by pressure where a sclerosed artery crosses the vein. It is much rarer for obstruction to be due to thrombosis, though this may occur, especially in young patients, without general vascular disease, but with some focus of infection producing a thrombus of bacterial origin, due to local phlebitis.

SIGNIFICANCE OF ARTERIOSCLEROSIS OF THE RETINAL VESSELS

Briefly, the significance of thickening of the retinal vessels is, first, that the arteriosclerosis is not limited to the retina. Of the other parts of the body which may be affected only three are of much importance. They are the kidneys, the

heart, and the brain. Secondly, arteriosclerosis of the retinal vessels shows that the causative factors are at work. Of these causes we know much or little, according to your point of view about hypertension and chronic nephritis. Of the actual toxic substances we know hardly anything. However, we do know much of great practical value about the etiology.

Among the important considerations are the following: Heredity; infections, including syphilis; overwork, mental as well as physical; discordant social life; over-anxious temperament; excess in eating and drinking; age (the earlier the onset, the more malignant, like diabetes)—in short, strain of various kinds.

TREATMENT

Having made a diagnosis of arteriosclerosis of the retinal arteries, what is to be done about it? The patient should usually be referred to his family doctor or internist, to whom a report should be made. The first step is the application of sound common sense to a readjustment of the patient's life. Rational advice given early is very effective if followed. The patient's work should be adapted to his capacity to carry on without strain and such other rearrangements made of his business and social life, whether slight or drastic, as seem necessary. If you have confidence in the value and importance of this sort of treatment and realize the certainty with which the patient will go from bad to worse if he continues his faulty mode of life, you ought to be able to communicate some of your faith to him, since faith, like fear, is very contagious. Coax, persuade, cajole, but be cautious not to alarm him, for it is possible to do great harm by arousing anxiety in a patient easily made overanxious.

I know of one wise and experienced internist who will not take on such cases unless they agree to put themselves under his absolute control for a year. He feels that it is not possible in less time to change the old habits and get the new ones sufficiently established to make it safe to trust the patient to his own devices. I cite this to emphasize the fact that telling the patient once or twice about these readjustments is by no means doing your duty by the case. To say, "You'd better take a vacation" or, "You need to cut down on your work," "Don't eat so much," "Take regular but not excessive exercise," etc. is only the beginning. Some one must see to it that the advice is followed and followed intelligently. See the patient often enough to steer him and keep him on the right path. He must be given a course in what may be called *"the art of living."* Some patients will be very grateful for such guidance and well they may be, for it is calculated to increase both the duration and the comfort of life.

Some of the fundamentals of the art of living are already widely recognized, such as some measure of personal cleanliness, proper disposal of sewage, protection of water and food from contamination, avoidance of contagion, etc. Marked increase in the duration of life has resulted. If we would reduce the losses from the diseases of degeneration, of wear and tear, we must carry the art of living into the field of personal habits, adjustments to environment in family life, business and pleasure,—in everything, avoidance of strain. It is a simple as this: An automobile that is overdriven will not last as long as one that is used with care. Don't step on the gas all the time!

RETINITIS ASSOCIATED WITH NEPHRITIS

Diagnosis

The white spots in renal retinitis are typically large, cotton-wool-like patches, sometimes resembling snowbanks. When small the spots are more numerous and may be arranged in fan-shape or star-shape about the macula, but even then they are larger than the spots of arteriosclerotic retinitis. The lesions are bilateral except in the early stages, while arteriosclerotic retinitis is often limited to one eye. The two conditions grade into each other because arteriosclerosis is often complicated by nephritis and vice versa. Hemorrhages are common to both forms.

Edema is an important ophthalmoscopic feature. It is visible in some degree in most cases and microscopic examination of specimens shows that it is practically always present in the retina in renal retinitis. If severe, diagnosis is easy, as both retina and nerve head are affected. In slight degrees, diagnosis is difficult because it depends on rather indefinite appearances. Retinal detachment marks an extreme degree of edema. Probably retinal edema is a factor in bringing about the star-shaped arrangement of the retinal spots around the macula. The edema produces lines of tension radiating from the macula and the exudate tends to be deposited along these lines. Thus we see the star-shaped arrangement in retinitis of various forms to which edema is common, such as papilledema. obstruction of retinal vessels, syphilitic retinitis, etc. Another and still more important factor in producing the star-shaped distribution of the spots is the radiate arrangement of the supporting fibres of Henle in the retina.

Visual symptoms may be absent if the macula itself is not involved; therefore they are not helpful in diagnosis.

Incidence

In early stages of nephritis, retinitis is the exception; in very late stages it is the rule. In other words, the incidence depends on the stage at which the examination is made. In certain forms of acute nephritis (due to massive action of toxins) retinal changes are present

very early. For example, in trench nephritis Greenwood found that if the patients were examined within an hour or two of their arrival from the trenches, fundus lesions were present in over 90%. Also in eclampsia fundus changes appear early. In chronic nephritis the incidence, as given by various observers who have compiled their statistics, varies from one-fifth to one-half the cases.

Course

There is a tendency for both hemorrhages and exudates to become absorbed and disappear. This process begins at once; and a hemorrhage may disappear by absorption in a few weeks; if more massive it may last for months. Exudates go through various stages toward absorption. The fibrin degenerates and becomes hyaline, fatty degeneration occurs, phagocytic cells attack the material, and the edema subsides. Even the white streaks of perivasculitis may disappear. At first, new hemorrhages and new white spots appear faster than the old ones absorb. If the general condition improves, the retina may clear up. Thus for example retinal detachment due to edema of this sort gives a far better prognosis than that due to other causes.

CLASSIFICATION OF FUNDUS CHANGES

There are so many types of nephritis due to the various etiological agents, most of which are unknown to the chemical pathologists, that classification is unsatisfactory, even to the internist and still more to the ophthalmologist. How, then, shall we interpret and classify for ourselves and for the internist if he consults us? Some sort of schematic, more or less arbitrary classification is necessary for intelligent study. A poor classification is better than none.

The presence of small white spots, hemorrhages, and sclerosed vessels shows that arteriosclerotic retinitis is present. The spots may be arranged in fan-shape, but are not usually in that form. The hemorrhages are generally small and flame-shaped. The blood pressure is high in most cases, especially in younger patients. On the other hand, the presence of large white patches with edema of the disc and of the retina with small, round, or flame-shaped hemorrhages shows the presence of nephritis. If the spots are in fan or star shape around the macula, they are not usually so small individually as are the spots in arteriosclerotic retinitis. Now suppose that we see some characteristic white patches as well as some signs of arteriosclerosis and report nephritis and the internist says, "No albumen, no casts."

The explanation sometimes is that the nephritis was an acute exacerbation which has subsided. The arteriosclerosis has affected the kidney vessels enough to make the organ vulnerable and a febrile attack (say influenza, or even a common cold) may have caused a passing acute nephritis with enough toxin to produce white patches in the retina, which, of course, persist for some weeks or months.

In general the large, white cotton-wool patches are signs of toxemia. The small, rather scanty, white dots are signs of vascular disease. We may picture to ourselves in a schematic way that some *toxic substances* acting *in small doses,* but long continued, bring about hypertension of the arteries, later, sclerosis of the arteries, later diseases of any organ where the sclerosis has reached a stage interfering with the blood supply sufficiently to cause local lesions and symptoms and local increased susceptibility to disease (kidney, brain, heart, retina). *Toxic substances in massive doses* probably of different origin and nature, produce acute rise of arterial tension, acute nephritis, acute edema and exudation and hemorrhage in the retina. Combinations of the two types cause all degrees of intermediate gradations.

With this as a basis we can go on to classify hypertension into mild benign, severe benign, malignant; the chief considerations being (a) the height of the diastolic blood pressure (more important in this connection than the height of the systolic pressure) and (b) the extent of the arteriosclerosis and (c) the age and prognosis.

In mild benign hypertension the diastolic blood pressure is under 115. There is no demonstrable sclerosis of the vessels in the brain, heart, or kidneys and if there is any in the retina it is mild. Patients with benign hypertension are not young and the prognosis is good, especially with suitable treatment.

In severe benign hypertension the diastolic pressure is over 115. There is arteriosclerosis of vessels of the brain, heart, and kidneys, and it is marked in the vessels of the retina with white spots and hemorrhages—arteriosclerotic retinitis. The prognosis is rather bad in this type, depending on the extent and stage of the arteriosclerosis in the heart, brain, and kidneys.

In malignant hypertension the diastolic pressure is over 130. There is arteriosclerosis of the vessels of the brain, heart, and kidneys, while in the retina we find not only arteriosclerosis and arteriosclerotic retinitis (hemorrhages and white spots) but *edema* of the retina and optic nerve. This form of hypertension occurs in younger patients and the prognosis is very grave. This classification of hypertension is fairly satisfactory, but the classification of nephritis based on opthalmoscopic findings is not satisfactory. Indeed the internists themselves have not yet arrived at a satisfactory scheme for classifying renal diseases.

CONCLUSIONS

The retinal changes in cardiovascular-renal diseases may be classified into:

(1) Those where vascular disease dominates the picture; this includes
(a) arteriosclerosis (sclerosis of retinal vessels, hemorrhages)
(b) arteriosclerotic retinitis (the same as (a) plus white spots)

(2) Those where a toxemia is the dominant factor; these show edema of retina and optic nerve; hemorrhages, especially the small, round, deep-seated ones, but also the striated, superficial ones; exudates in cotton-wool patches and in small spots, often arranged in star, or fan-shape around the macula

(3) Those where both (1) and (2) are much in evidence.

It is not possible to make a diagnosis of the condition of the kidneys from an examination of the retina. The ophthalmoscopic findings will disclose whether vascular disease is an important factor in a given case. If cotton-wool patches are present with edema and perhaps some hemorrhages, we can say that a toxic factor is at work, but we cannot say what the toxin is or that a definite type of nephritis (for example, chronic glomerular nephritis) is present. Various writers have tried to draw conclusions as to renal conditions from fundus appearances. The old name "albuminuric retinitis" is based on the frequency with which albumin is found in the urine in some cases of retinitis. But in seventeen cases, reported by Wagener (*American Journal of Ophthalmology*, April, 1924), where the fundus showed the well recognized changes of retinitis with nephritis (hemorrhages, edema, cotton-wool patches, and whitish spots often arranged in star or fan-shape around the macula) the clinical study of the cases resulted in classification of only ten as nephritis (chronic glomerular) and of seven as hypertension.

The early detection of arteriosclerosis may be made of great benefit to the patient provided it results in such modification of his habits and mode of life as will tend to arrest the progress of a disease which in its early stages causes little or no reduction in efficiency but is bound to progress if disregarded. Since the early symptoms are negligible, appeal must be made to the patient's intelligence and his coöperation secured. This calls for the highest type of medical skill and tact. Such patients should no more be left to decide for themselves than children should be permitted to decide whether to go to school or what to eat or wear.

In referring cases with retinal changes to an internist, it is well to make clear to him whether the retina shows vascular lesions—arteriosclerosis, with nephritis possible but not probable; or toxic lesions, with nephritis probable but not certain, suggesting in the former that, while you do not expect him to find any serious disease, you hope he may give the patient such advice and guidance as will forestall or postpone serious disease, readjusting the patient's life to his capacity to carry on without strain. Otherwise he may simply test the urine for albumin and if it is negative, advise the patient that it was a false alarm, that everything is satisfactory and that no treatment is needed. To guide and reform the habits of an intelligent and sensible person should be a simple matter for any general practitioner. The real test of the doctor's superior skill and competence is in the number of foolish, self-indulgent patients that he can manage to reform, without making them valetudinarians or worriers.

A CASE OF PULMONARY MYCOSIS*

BY WM. ROYAL STOKES, M.D., AND STANDISH MC CLEARY, M.D.

IT is now well known that a number of hyphomycetes are capable of producing infection in animals and man. It will not be necessary to even mention these different organisms in this article, but, as the parasite which probably caused the infection to be reported below is at least closely related to the genus *Aspergillus*, it might be well to mention certain effects of these *fungi*.

Mendelson[1] has described the tropical bronchopulmonary mycoses which he found prevalent in Siam, and he mentions *Aspergillus* as the cause of one group of such infections. He obtained pure cultures from some of his cases at autopsy. These autopsies were negative for the tubercle bacillus. He describes the small pseudotubercles as mycotic tumors which stand out as very prominent masses. He failed to find any evidence of necrosis in these pseudotubercles.

Greeley[2] has described 14 cases of chronic nontuberculous disease of the lungs in which he obtained *Penicillium glaucum* in the sputum, and one case in which *Aspergillus fumigatus* was obtained. These cases on physical examination often showed infiltration of the apices and, occasionally, the physical signs of cavity formation were detected. They exhibited most of the clinical manifestations of tuberculosis of the lung.

Chiurco[3] has described a case resembling pulmonary tuberculosis but which was negative for this organism, *Aspergillus fumigatus* being obtained in pure culture.

Cleland[4] has described a case of aspergillosis of the pleura which followed an operation for

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empyema. Cultures from the thoracic cavity revealed an aspergillus resembling *Aspergillus fumigatus* and *Aspergillus bronchialis.*

Castellani[5], in his inclusive monograph on the general subject of chronic bronchitis of nontuberculous origin, has described a number of animal and vegetable parasites in these cases. Under broncho-aspergillomycosis he describes symptoms in man as characterized by mucopurulent bronchitis, haemoptysis and fever. The disease often terminates fatally and at postmortem numerous mycotic nodules are found in the lungs and, occasionally, in the kidney and other organs. Such conditions may be due to several forms of the aspergillus, especially *Aspergillus fumigatus.*

He also describes one case of broncho-penicilliosis which occurred in a Serbian soldier in a hospital in Macedonia during the World War. Fever and wasting for two months were noted, with a mucopurulent and at times bloody sputum. Repeated examinations were negative for the tubercle bacillus, but a characteristic Penicillium crustatum was cultivated from the sputum.

In many of these cases it will be noted that the diagnosis was only made from the sputum and no autopsies were obtained, so that in these instances the etiological factor can hardly be said to have been proved. Since a number of these cases of aspergillus infection have been confirmed by autopsies and the obtaining of pure cultures of the fungus, it must be admitted that the aspergillus is often a causative agent in nontuberculous chronic pulmonary disease.

The pathological condition in the lungs of humans due to infection with the aspergillus, as described by Plunt in one of Kolle and Wassermann's volumes[6], may be limited to the bronchi or may extend into the surrounding alveolar tissue, producing a clinical picture resembling pulmonary tuberculosis. The sputum may also contain the spores and hyphae of this organism.

At autopsy, in cases of human infection, the central mass of necrotic lung parenchyma, containing the aspergillus colony, is usually surrounded by a darkly colored edge. Under the microscope the necrotic area shows nuclear fragmentation and the mycelium of the aspergillus is found in the center, usually occupying the lumen of a necrotic bronchus. The necrotic zone is also surrounded by a zone of broken-down leucocytes. Owing to the presence of the sporangia in the bronchi the spores can be carried to other portions of the lung. *The masses become detached without diminishing* and produce inodorous masses of gangrene.

The subject of aspergillosis of the lungs has been recently reviewed by Lapham[7], who cites that this is usually caused by the *Aspergillus fumigatus.* The condition may exist along with tuberculosis of the lung, but she has shown that it may also take place as a primary infection. A number of rabbits inoculated with aspergillus spores showed lesions of the liver, kidney and spleen resembling typical miliary tubercles, and the lungs were either studded with such tubercles or showed more diffuse lesions of solidification.

In human beings the mucous membrane of the bronchi is attacked and ulcerations may form with patches of membrane. The spores may later enter the lung tissue, producing microscopic cavities, which may be surrounded by areas of hepatization and compensatory emphysema, giving the appearance of chronic pneumonia. The pulmonary artery may also become distended with a growth of the aspergillus together with thrombi. This author reports four cases in human beings which showed such lesions.

In the pleuritic type the spores may be carried to the periphery of the lung and attack the pleural surfaces, causing congestion, thickening and adhesions. One case of such a type is reported, and another case of acute pleurisy, following bronchitis, is cited as reported by Castrillon[8].

CLINICAL HISTORY

The case which we wish to report is that of a colored boy fifteen years of age, who entered the Mercy Hospital in December, 1924, after an illness of six weeks. It does not seem worth while to make any extensive comments concerning the clinical history, but it might be mentioned that a large mass was found in the lower left quadrant of the abdomen, which extended to the right and reached as high as the umbilicus. Seven days later a laparotomy was performed and a general tubercular peritonitis was detected. This was drained through a sinus established through the abdominal wall. A septic condition developed, which continued for a month, when death resulted from an intra-abdominal hemorrhage.

AUTOPSY REPORT

The autopsy revealed nothing worthy of note except an extensive tuberculous peritonitis and an acute fibrinous pleurisy of the lower right lung, which on section showed scattered areas of consolidation.

MICROSCOPIC EXAMINATION

Since the fungus produced an infection of the pulmonary tissue, the result of the microscopic examination of the lungs is given in detail, as follows:

Left lung: There is some emphysema present, but the pleura is normal and no tubercles are present. Bronchi and vessels normal.

Right lung: Pleura thickened, containing many fibroblasts and newly formed blood vessels, together with a proliferation of the surface endothelium. Both the thickened connective tissue of the pleura and the surface endothelium are infiltrated by polynuclear leucocytes. In some areas the epithelium has disappeared and is replaced by a surface layer of fibrin in a deeper layer of polynuclear leucocytes. Somewhat under the surface of the lung there is an area in which a pulmonary vein is filled with a fibrinopurulent thrombus. The walls of this vein are normal. Adjacent to this there is a bronchus denuded of its epithelium and filled with polynuclear leucocytes and epithelial cells. In an area a little further from the surface a pulmonary vein is completely filled with a fibrinopurulent thrombus. The entire wall towards the adjacent bronchus has become necrotic, showing many fragmented nuclei. This condition of extreme necrosis with fragmented nuclei also extends to the

peribronchial and perivascular connective tissue and involves the adjacent wall of the bronchus. The lumen of the necrotic bronchus is filled with a plug of polynuclear leucocytes and desquamated epithelial cells. That portion of the lumen which impinges upon the necrotic connective tissue is filled with a fungus show-

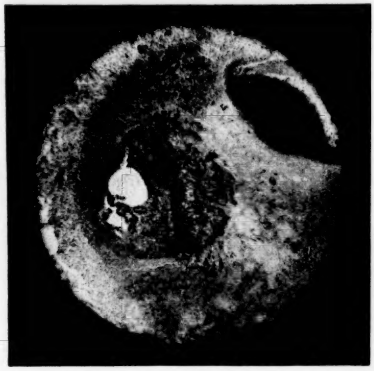

FIGURE 1. Showing the thrombus in the necrotic vein, and the necrotic condition of the peribronchial connective tissue and the bronchus, and the branching mycelium.

ing the characteristic morphology of the vegetative stage of either an *aspergillus* or *penicillium*. The branching mycelium ends in a number of hyphae which penetrate the necrotic bronchial wall and peribronchial tissue. Sections stained for tubercle bacilli were negative.

Lower lobe: The pleural surface is covered by a very thick necrotic layer, beneath which there is a

FIGURE 2. In greater magnification showing the necrotic bronchus alone and the fungus occupying a part of its lumen.

black layer of polynuclear leucocytes and fibrin. The air cells, especially in areas around the bronchi, are filled with an exudate consisting of fibrin, leucocytes and epithelial cells, and there is active congestion of the smaller blood vessels. The bronchi are filled with a purulent exudate.

The photomicrographs Figures 1, 2 and 3 show the pathological changes and the morphology produced by the fungus. Figure 1 shows the thrombus in the vein, and the necrotic condition of the peribronchial connective tissue and the bronchus, and the branching mycelium. Figure 2 in greater magnification shows the necrotic bronchus alone with the fungus occupying a part of its lumen. Figure 3 shows the morphology of the vegetative stage of the fungus.

OTHER ORGANS

The microscopic examination of the other organs disclosed an extensive tuberculous peritonitis involving the surface of the various abdominal viscera. Many discrete and confluent tubercles were found, and

FIGURE 3. Showing the morphology of the vegetative stage of the fungus.

tubercle bacilli were demonstrated by staining methods in a number of these areas.

COMMENT ON THE EXAMINATION OF SECTIONS

It should be emphasized that the examination of numerous sections from different areas of both lungs failed to show any evidence of tuberculosis, and the necrotic area surrounding the pulmonary fungus was stained for tubercle bacilli with negative results. It would seem, therefore, that the infection of the bronchial mucous membrane by the fungus was a primary pulmonary infection and was not associated with any tuberculous process in the lung. This infection, however, was accompanied by a general tuberculous process involving the abdominal cavity.

CLASSIFICATION OF THE FUNGUS

After having consulted three of the most prominent mycologists of the country, we are convinced that it is impossible to classify this fungus owing to the fact that no cultures were obtained and to the fact that only the vegetative stage of the fungus was observed in the sections. It is, of course, impossible to identify a fungus of this kind without the presence of the fruiting parts, and no such structures were observed in the sections from this case. It would seem, however, since most of the cases of pulmonary infection are either due to *aspergillus* or *penicillium*, that the fungus may belong to either of these genera.

SUMMARY

Although the above is by no means a complete study of a case of pulmonary mycosis, yet it was thought that by presenting the clinical his-

tory and lesions at least attention would again be drawn to the fact that such fungi produce destructive lesions of the pulmonary tissues.

It would seem from the study of this case that the infection of the bronchi was due to the fungus and to no other cause. The presence of the healing pleurisy could hardly have any effect in producing the necrotic condition of the bronchi, and since neither tuberculous lesions nor tubercle bacilli were demonstrated in the lung, the fungus present in the bronchi is the only other organism which would account for this bronchial infection.

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STRUCTURAL ABNORMALITIES OF THE FOOT: METHODS OF TREATMENT

BY PAUL N. JEPSON, M.D.*

TO fulfill its double function of bearing weight and of propulsion, the foot is built like an elastic arch so as to give under strain. The arch is actually double, being composed of the longitudinal arch and the transverse arch. Of these two, the transverse is the less stable, for as quickly as the body weight is applied, the anterior part of the foot flattens and obliterates this anterior arch. When no weight is borne on the foot, the second and third metatarsophalangeal joints occupy a higher plane than their fellows. The longitudinal arch is often considered as being composed of two parts: the outer, which is formed by the os calcis, the cuboid, and the fourth and fifth metatarsals, (the first and last named bones sustaining the arch in weight-bearing), and the inner portion, which is formed by the os calcis, the astragalus, the navicular, the cuneiform, and the first, second, and third metatarsals. The outer portion is solid and more adapted to bearing weight continuously. This weight is transmitted through the astragalus.

The bony elements of the arches of the foot are bound together by the muscles and ligaments, and by the strong plantar fascia covering in the sole. When the elasticity of these structures becomes diminished, corns and calluses result from the abnormal pressure.

When the foot is used to propel the body, it should be held in such a position that the line of weight-bearing will pass down through the center of the knee and ankle joint and over the second toe. In walking properly, the feet should swing in the line of progression, the weight coming first on the heel, then on the outer border of the foot, and finally on the toes. At the end of the step the walker appears pigeon-toed.

CAUSES PREDISPOSING TO FOOT STRAIN

The shoe has been a big factor in causing damage to the foot. The modern shoe does not allow the toes to spread and to function properly. Due to pressure, the muscles tend to atrophy and the elasticity of the arch is weakened. Damage may be the result of static causes or may be brought about by overuse. The static type of foot is usually the result of habitual over-weight, but may be caused by carrying heavy loads.

There are three types of arches: (1) the unduly high arch (pes cavus); (2) the normal arch; and (3) the flat arch. In the pes cavus type there may be symptoms of foot strain as severe as in marked flat-foot of any sort. The normal arch is one which, when the line of weight-bearing passes through the center of the patella and the second toe, without pronation of the foot, forms an imprint which occupies the outer third of the impression at the middle of the foot (Figure 1).

FIG. 1. Imprint which normal foot forms.

SYMPTOMS OF FOOT STRAIN

Perhaps the types of foot most susceptible to strain and pain are the high-arch foot, the abducted and everted foot, and the foot with the short tendo Achilles. The first symptoms of foot-strain are: (1) a burning feeling under the ball of the foot and a desire to get the weight off the feet; (2) lameness and pain over the whole anterior part of the foot and

*From the MacAusland Orthopedic Clinics.

even up the leg; (3) a feeling of coldness and lack of proper circulation; and (4) a feeling of tightness of the shoe. Pain and tenderness are usually experienced along the internal malleolus and under the scaphoid bone. This results in a stilted gait: the feet are turned out, and the walker hesitates to raise his weight off the ground for fear of straining the foot.

TREATMENT

The object of treatment is to reëstablish, if possible, the normal line of weight-bearing, and to restore normal balance and function. We should be able to cure permanently the flexible flattened foot in children. In a series of 800 cases examined by Dowler in children ranging from one to fifteen years of age, flat-foot was present in 52.1 per cent. There was a higher percentage of flat-foot in the children from eleven to fifteen years of age, indicating that the condition becomes more prevalent if allowed to go uncorrected.

This abnormality is best rectified by suitable support of the foot. The object in correcting

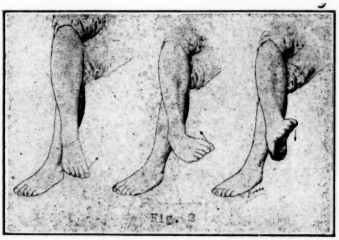

FIG. 2. With knees crossed drop the foot, next invert it (so that the sole faces the opposite side); then flex the foot at the ankle; that is, bend it upward with the sole still facing outward. Repeat these three movements a number of times and then exercise the opposite foot.

by means of supports is to reëstablish the proper balance of the leg on the foot and ankle. This is accomplished by the use of plates or by tilting the shoe by means of a lift of leather on the inner side of the heel or sole or both. Going barefoot on hard floors and pavements is not to be advised.

The shoe should be selected with care; it should be long enough. The widest part of the foot should come at the widest part of the shoe, which is usually just at the point where the inner border of the sole bulges out. A foot bearing weight is about one size larger than a resting foot. A laced Oxford type of shoe is preferable because it will allow freer motion of the foot and ankle, and afford a better chance to exercise and strengthen the muscles. A good fit at the heel will give added stability to the foot and prevent slipping of the shoe.

The inner side of the shoe should be straight so that the inner side of the heel, the inner

FIG. 3. Walk with weight on outer border of each foot, keeping feet parallel.

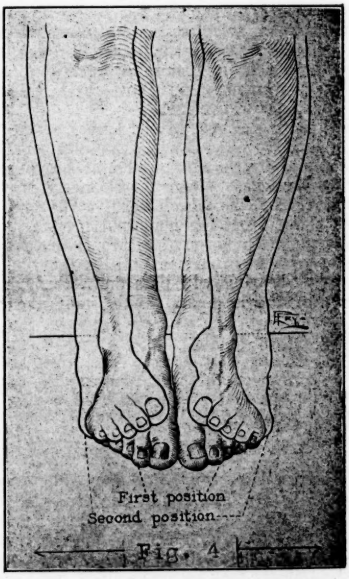

FIG. 4. Stand with feet parallel and rise to the outer border. Return to first position without letting arch sag, and repeat.

side of the ball of the great toe, and the inner side of the front of the shoe will be in a straight line. The shoe must be strong enough in the shank to give good support to the longitudinal arch. Built-in steel arches and flexible arches are to be discouraged. The heel should be of medium height and wide enough to give a stable base. In children's shoes it is better to have a heel of the regular square-edged variety and not the spring heel so commonly advocated. The object of the heel is to support the long arch and to maintain the proper balance of the foot. This is best done by means of the ordinary square-edged heel. A welt shoe is preferable to a "stitch-down" type.

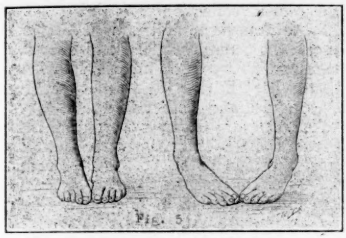

FIG. 5. Stand with feet parallel and then separate the heels by rolling outward at hips, at same time rising slightly on the toes. Do not bend the knees.

Not all deformities are caused by improperly fitted shoes. Short hose, as well as short shoes, cause bunions and hallux valgus. Pointed and narrow shoes crowd the toes together and cause corns, callosities, and claw toes.

When there is pain under the metatarsal heads, additional support should be added to the plates, or a so-called transverse bar made of leather, crescent-shaped, with the convexity anteriorly, may be attached to the shoe. This transverse bar (sometimes called an anterior heel or Cook sole) is placed on the sole of the shoe just posterior to the metatarsal heads. Many times a felt pad on the inside of the shoe will help.

In addition to correction of the shoe, certain exercises should be carried out. As a rule, the simpler the exercises, the more likely is the patient to follow them up and for this reason, only a few are outlined. (Figures 2, 3, 4, and 5.)

Contrast baths materially help to increase the circulation and to relieve pain. They should be taken as follows: Starting with the hot bath, immerse the feet for exactly one minute. Then plunge the feet into the cold bath for exactly one minute. Repeat this process ten times, ending with the hot bath. Always begin and end with the hot bath. After the foot-bath, the feet and legs should be rubbed with witch hazel. The massage strokes should be directed from the toes toward the body.

Prompt attention to foot complaints and their treatment by proper support, shoes, and exercises will alleviate many of the foot conditions which bring patients to the orthopedist for correction.

INFORMATION, REFERENCE AND BIBLIOGRAPHIC SERVICE*

BY JAMES F. BALLARD

"I COME from the 'Enemy'," said a man as he walked into my office one afternoon, and I was rather surprised and perturbed for a moment until he finished by saying, "Now playing at the Hollis Theatre," and then I knew that my visitor was but another seeker of information of an unusual character. He was the leading man of a stock company then playing at the Hollis Theatre, and as the "Captive" was to be brought to Boston he wished to inform himself on a special question. Some months previously a famous actor came to the Library looking for pictures or descriptions of physicians' costumes of the time when Dickens made his first visit to America. There was to be another Dickens dinner, in commemoration of the Dickens' visit, and he was to take the part of Dr. Jacob Bigelow and wished to dress in the style of the period. Hour after hour, day after day, the telephone, the mail, the visitor in person, bring a constant flow of inquiries of all kinds, no two alike, simple and difficult, ordinary and bizarre.

The large library finds itself compelled, as a part of its service, to give much time to answering all inquiries which definitely fall within its field, and to referring others to competent sources of information. It becomes necessary to provide the essential ready reference works and keep them up to date. Economically it is best to concentrate the bibliographic and information sources and ready reference books in one place, an alcove or a separate room, thus bringing the short-time visitors to one place where they will not disturb the more serious students.

In the Boston Medical Library we have placed these books, directories, dictionaries, encyclopædias (general and medical), census reports, such books as Landolt-Bornstein *Tabellen*, the *Tabulæ bioligicæ*, the *Index Catalogue*, *Index Medicus* and *Quarterly Cumulative Index*, the abstracting serials, such as *Biological Abstracts*, *Chemical Abstracts*, *Physiological Reviews* and similar publications, long runs of the *Boston Medical and Surgical Journal*, and the *Journal*

*Read at the thirtieth annual meeting of the Medical Library Association, Washington, May 16th-17th, 1927.
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of the American Medical Association, Progressive Medicine, and the Practical Medicine Series, in an alcove in the center of the main reading room, an arrangement which has proved successful.

The 3,500 books and periodicals shelved in the reading room constitute in themselves a reference library, as nothing is allowed on the shelves unless it is in frequent demand. The sets are arranged in alphabetical order, so that it is easy for the members to help themselves. This is the only open stack in the library and is open only to members. Non-members must make out request slips for the books and periodicals.

In our main reading room we have checked the use of certain periodicals, with results which were rather astonishing. It was not infrequently found that a periodical commonly thought to be in constant use was used but seldom, and consequently had to give way to one more in demand. With an adequate modern stack and sufficient help, the volumes in the reading room should be of a reference character.

Information, reference and bibliographic services, while closely related and overlapping each other, and combined in most libraries, are essentially different. Information service may be defined as the answering of inquiries which may in a moment be solved by consulting ready reference sources. Requests for addresses and full names of physicians (local, national and European), information concerning hospitals, addresses of drug houses, the addresses and prices of medical periodicals, the publishers and prices of medical books, lists of local specialists or of those in other states and foreign countries and of special hospitals, are examples. One constant question is "Does Dr. — — belong to the Massachusetts Medical Society?"

Telephone inquiries of this kind should be, so far as possible, answered at the source, that is, where they are received, at the main telephone station, thus saving the reference desk from an overload of work. It is advisable to provide second copies of much used books, such as the A. M. A. Directory and the British directories, hospital directories and local society lists. In the Boston Medical Library the main telephone receiving station is located in the catalogue room, and extra copies of the above mentioned directories, as well as the latest Boston Directory, are kept in this room where they are used in cataloguing as well as for information purposes. From this station are given all United States and British and hospital addresses. All requests for Continental and other foreign addresses are transferred to the reference desk in the reading room, where the main collection of directories and dictionaries is shelved. The central telephone receiving station has direct communication with the reference desk and the librarians' offices, and thus maintains control over the telephones. One of the trunk lines is unlisted and used exclusively for outgoing calls. If the inquiry cannot be answered in a minute or so, the telephone number of the inquirer is taken and he is called back when the information has been procured. This frees the listed trunk line and does not tie up the telephone service.

All calls concerning prices and publishers of books, both foreign and domestic, are switched to the librarian's office, where there is a good bibliographical collection containing complete sets of the American and United States catalogues and the Cumulative Book Index, the English catalogue, Kayser, Heinsius, Hinrichs and the Deutscher Bücher Lexicon, the French, Italian, Spanish and Netherlands catalogues, the lists of French and German theses and dissertations, the British and American Book Prices Current, the lists of U. S. Public Documents, U. S. State Documents, British, French and German public documents, files of medical publishers' catalogues, etc. In the category of information also may be included the information given as to local medical institutions and affairs, and the advisory service concerning the rules, regulations and methods of the library.

Reference questions are usually limited to those which do not require extensive research and may be generally answered by giving the reader a definite book or article. If the inquiry is outside the field of the library, the reader is then referred to a competent source in the city. Reference and research are closely allied, and a simple reference question may develop into a research question; there is, however, a great difference in the method of handling the two kinds of service. Bibliographic research comprising the preparation of bibliographies, complete or partial, selective and annotated, the abstracting of material, the translating of articles, analytic surveys of literature and the collection of case reports, is rapidly being recognized as an essential service in all special libraries.

It should be remembered that this bibliographic research is but one step in a larger research problem. The recent report of the national Committee of Research in Secondary Education*, published in April, 1927, summarizes the steps in a scientific research as follows:

1. The formulation of the problem.
2. The assembly of relevant data.
3. The critical analysis of data.
4. The development of an hypothesis or possible solution.
5. Testing the validity of the hypothesis or possible solution.

It is with the second step, the assembly of relevant data, that the reference librarian has to do, and with no other step in the process. It is not his place to analyze the material or write the book or paper; that should be the

*U. S. Bureau of Education. Bull. 24, 1927.

sole function of the reader or the person concerned with the major problem.

In the Boston Medical Library there is no charge for information or reference service, but a charge is made for bibliographic service when done by the library. This fee is charged to members as well as non-members and has been so charged during the past two years. Last September the executive committee voted to establish a definite reference and bibliographic department under the supervision of a competent reference librarian. Unforeseen difficulties have temporarily hindered the full realization of the plan, but it is hoped that it may be fully established in the autumn.

The only essential differences in method and technique which exist between the general and the special library are in the fields of reference and classification, including subject headings. The fundamentals of reference work are the same for general as for special libraries.

In order to carry on thorough and extensive reference work it is necessary to have a well-selected collection of source books, both general and special. It is absolutely necessary that the reference worker should be thoroughly conversant with the contents of this collection. A small collection well used is much better than a large collection whose chief function is one of display. Dr. Canfield of Columbia University remarked that "a well trained librarian can do better and more work with an unabridged dictionary than an untrained person can do with a thousand volumes."

Know your own library, its resources and limitations; make use of the card catalogue. Why have a card catalogue with elaborate subject headings if it is not used intelligently?

It is imperative for one to know the resources of the libraries in his own community and be prepared to send people to the librarian best equipped to answer their questions. A visitor seeking information on "amphioxus" is sent to the Library of the Natural History Society; one asking the question "Was George Washington an Irishman?" is referred to the Massachusetts Historical Society. However, do not shirk your own responsibilities! One of the cardinal principles of reference work is to supply information concerning every inquiry or to indicate where such information may be found.

Once having found particular information, record it for future use. File such records in a drawer where they may be readily accessible. Also keep copies of all bibliographies prepared for readers and file these in a vertical file. Various seemingly simple questions turn out to be very difficult of solution. How many quarts of blood in a human being? What is the chemical composition of human muscle? The answers to such questions should be recorded to save future time and labor.

The function of the reference librarian is to find data, or to direct the search for information, not to express opinions. The visitor should be permitted to form his own conclusions from material furnished him. The education of a reference librarian for a special library is determined entirely by the subjects in which the library specializes. The reference worker must have a thorough knowledge of his particular field, its history, its prominent men, its relation to other fields; in fact, all that concerns it in any way. He should have an alert mind, be accurate and quick in his work and should have language sense as well as some knowledge of German and the romance languages. He must be courteous, tactful, helpful without obtrusion, and have the ability to teach others how to use books. He should develop a systematic and thorough method of work.

Miss Hazeltine of the University of Wisconsin says, "An artist in reference work does not fumble, that is, does not rush wildly from book to book without thought or an appreciation of the question; nervously pulling books from the shelves that have no bearing upon it in a mad effort to find something."

It is impossible to do good work without adequate tools. If a book is in constant demand, two or more copies should be provided, one to be retained exclusively for reference use. It is good economy to have three, four or even more copies of such works as Stedman's, Dorland's and Lang's dictionaries, of Garrison's and Baas' histories of medicine, of the Kelly, Burrage, and Hirsch biographies. Such books as these are the everyday tools of the library worker and should be close at hand, on the desks of the cataloguers and the reference workers, in the librarian's office and in the public reference collection. Multiple copies of such constantly used books will soon pay for themselves in the time saved by having them on hand.

It is most important to keep up to date, up to the very minute, and how to accomplish this at a reasonable cost is one of the great problems of library work. The ideal method is to catalogue and make available all articles and every scrap of information as soon as received. In a large library this would require a separate staff and is usually not done because of the prohibitive cost. The work would justify the expense if money were available.

The new *Quarterly Cumulative Index Medicus* with its half-year accumulation is necessarily going to be at times many months behind the literature. In addition to the information and reference file previously mentioned there should be maintained a clipping file as well as files of portraits, obituaries and bibliographies, all kept on cards. Scrap-books should be kept of items of local interest.

It is impossible at this time to give a list of the works considered desirable for ready reference purposes. Encyclopædias and dictionaries, small and large, general and medical, year books of general information, biographical dictionaries

of all nationalities, medical histories, ancient and modern, local and general, directories of all countries, lists of specialists, local, national and international, files of medical school announcements and hospital reports, current bibliographies of all kinds relating to and concerning medicine and kindred science, files of local medical periodicals, of the *United States Daily*, of the bulletin of the State legislature, books of quotations, of dates, of abbreviations, of biological tables and formulæ, general reference works on chemistry and physics, pharmacopœias, books on proprietary and non-official remedies, should be well represented in a good reference collection.

The large special medical library must not only provide up-to-the-minute information, but must also furnish the historical material so necessary to research. To keep up to date with the new books and pamphlets requires a small library in itself. One must receive and read regularly the foreign book trade journals, the *Publisher's Weekly*, and the *Publisher's Circular*, the *Book Review Digest* and *Times Literary Digest*, the various lists of public documents, the *United States Daily*, certain weekly and monthly medical journals such as the *Journal of the American Medical Association*, the *British Medical Journal* and the *Lancet*, not for the reviews but for the advertisements of the publishers. The publishers' catalogues, announcements and circulars should be received regularly and filed. Special reports may be had from European dealers and agents, and publishers in this country will gladly keep one informed of their new publications if it is made evident that such information is desired.

Books and pamphlets should not be accepted at the face value of their titles, but should be carefully scrutinized for hidden material. Collected and combination works should be carefully analyzed. Every effort should be made to make all material available. Limited or selected subject-headings may be used for common classes, thereby keeping down the number of cards in the public catalogue and at the same time keeping it up to date. In using this plan all books are catalogued under their authors, but subject headings are made only for late textbooks. A reader running through a mass of cards on the practice of medicine may pick at random or from idle curiosity a book for which he has no use and which he discards after a cursory examination and then accepts one from the reference collection. If the book is not listed under the subject he does not ask for it, thus saving the time of the library attendants. If a reader desires a definite book and edition he will always find it under the author. The full contents of any class is at any time shown by the shelf list.

Where card catalogues run into thousands of cards, and lessening of the total number without diminishing the value of the catalogue is desirable. Time, labor and material enter into the writing of cards, and the fewer cards written the less the cost of the catalogue. Full cataloguing in most cases is essential, but in this plan of limited subject-headings is offered one of the very few means of lessening the costs. When a library is so large as to need a separate cataloguing department employing a number of persons, anything tending toward the lessening of costs is worthy of serious consideration.

There is constant complaint from general librarians of the lack of bibliographical works. The absence of these is most apparent in the field of medicine. The books and articles written on reference work and the published lists are general in character and, except in a small way, are not of interest to the medical librarian. A series of bibliographical publications is needed for the medical library profession. Each type of special library needs its own bibliographical lists as well as manuals of library practice. A treatise similar to the "New Reference Books" of Miss Isadore Mudge is greatly needed by medical librarians. It could, after the first issue, be kept up-to-date and additions published at intervals in the *Bulletin* of the Association. Such a treatise would first treat of general reference works desirable for a medical collection, then take up in order the general medical sources and the fundamental sources in all fields of medicine.

The medical library profession has an acute need for a standard list of subject headings. Such a list is now in preparation by the Boston Medical Library, and at present consists of over 500 typewritten pages.

A list of standard texts in medicine desirable for small libraries, particularly public libraries desiring to establish a small medical section, has been compiled by the writer and revised three times. It was originally made for the Springfield Public Library and the last revision was made for the "Church Periodical Club of Boston and New York" and used to restore the medical library of St. Luke's Hospital at Tokyo which was destroyed by earthquake.

Lists of directories, of international congresses, of trade bibliographies and trade publications, of foreign booksellers and their specialties, of medical libraries throughout the world, of abstracting serials and serials where abstracts of out-of-the-way foreign articles may be found, of special serials in the various fields of medicine, books on medicine and public health suitable for the general public, or pharmacopœias, dispensatories, formularies and treatises on new drugs, of books desirable for a librarian's library, may be mentioned as worthy of compilation and publication. Certain classes of books are becoming so rare and expensive that in the purchase of such material all the medical libraries in the United States should be considered as one large library, so that expensive duplication may be avoided.

In order to make possible this idea, union lists are needed of such classes as medical incunabula, sixteenth century, Spanish, German and English imprints, the plague tracts, the graphic incunabula and sixteenth century books, of excessively rare and expensive works as well as a list of facsimiles of such works.

When it is known that there are copies of the Lobera de Avila tracts or the "Christianismi Restitutio" of Servetus, of the "De motu cordis" of Harvey or the "Judicial of Urines", and like works in the Boston Medical Library it would be foolish for other Massachusetts libraries to spend thousands of dollars in duplicating such books.

The multiplication of medical libraries is so rapid that something should be done at once to correlate, co-ordinate and consolidate local resources, thus saving duplication of effort and of expensive publications. The time has arrived when the country should be divided into districts, and regional reference libraries unrestricted in capacity be designated for each large geographical division. If these large libraries do not exist they should be established. These regional libraries would care for the extraordinary demands of their particular regions. Then, in each State, there should be designated a State library in addition to the small working libraries of the medical schools, hospitals and societies. These various libraries should be co-ordinated and correlated and a definite policy set up for each one.

The Boston Medical Library for years has had the very definite policy that it would serve the whole of New England as a reference library and its accessions have been made with regard to this policy. Many libraries in Greater Boston have been given to the Boston Medical Library, until now the only medical libraries not combined with the Boston Medical Library are the various hospital and medical school libraries and State libraries. Even the State libraries have given up their medical sets.

Local inter-library relations are increasing steadily until almost daily requests are received from the Massachusetts Institute of Technology State Department of Health, Massachusetts General Hospital, Harvard University and similar institutions.

Close contact is maintained between the special and general libraries through the medium of the Massachusetts Library Club and the Special Libraries Association of Boston and the Community Extension Committee, which is made up of representatives of all the Boston libraries. Two years ago the Boston Public Library established a definite information department, entirely separate and distinct from the reference department, and it has proven a wonderful success. With this the Boston Medical Library is in constant touch. It refers all medical inquiries direct to the Boston Medical Library, and we refer many inquiries to it. The Boston Medical Library has in mind the establishment of branches in the large cities of the state not already supplied with libraries. These would be small working libraries kept up to date, the special needs of which would be supplied from the regional library in Boston. A plan entailing co-operation between the physicians of any particular locality, the depository, and the Boston Medical Library has been drafted and approved by the Massachusetts Medical Society. This plan might be temporarily extended to sister States, particularly the northern New England States, where there are no large medical libraries.

The large libraries through co-operative work could be of great help to each other and save money, time and labor. They could exchange bibliographies, arrange some plan for keeping up to date the important current medical literature, and maintain a joint buying agency which could arrange for the receipt of books on approval. If the Army Medical Library could type and sell duplicates of its cards as they are reported it would be of great service to the medical libraries of the country.

The greatest co-operative bibliographical work which has ever been accomplished in America is the invaluable National Union List of Serials, now fast nearing completion. The Library of Congress has offered to accept and file additions to the list which may be sent to it. Some plan should be worked out for keeping up-to-date medical additions to this list.

The clientele of the special medical library is drawn from the learned professions, from the undergraduates, postgraduates and graduates, from the industrial sources, from the courts and state and civic departments, from the press and similar sources. The large medical reference library is not called upon to furnish books to the laity. This class of readers should be served by the public library from a special collection of books the titles of which have been selected and recommended by the regional medical library.

Dr. Malloch says that the word "service" is much overworked, and that it is the one obvious function of a library, but it is regrettable to have to note how few are the libraries which measure up to even a fair standard of excellence as regards service. Good service, excellent service, means the co-ordination of all the departments of the library, of all employees, from the director to the page who gets the books. Delay in getting books casts a stigma on an otherwise faultless routine. Discourteous and inattentive treatment of visitors nullifies whatever has gone before. Good service can only be maintained by constant supervision.

The librarian cannot be expected to do good work without the proper tools, and in this connection the librarian should build up a collection of books about books, of trade publications

and special bibliographical works needed in the library in its everyday life.

The only way to know the trend of inquiries is to record them over a period of some months or years. Such a compilation will show to a certain extent the deficiencies of the library. For the past year I have kept a record of some of the questions, and I will mention a few classified as regards information and reference and research.

INFORMATION

Name of a bloodless surgeon to treat a growth in the neck due to trauma.

Who is the librarian of the Army Medical Library?

Who wrote the "Diary of a Physician?"

List of secretaries of medical societies in Massachusetts.

Title of book by L. Hill on Health and Environment (wanted "Sunshine and Open Air").

What do the initials D.T.A. means after a man's name?

List of Massachusetts physicians.

Address of Lea and Febiger.

Address of a spine doctor in Tennessee.

Addresses of certain physicians in South America, Great Britain, France, Italy and Germany.

Recommend a specialist on the heart.

Address of the Defensive Diet League.

Address of Schering & Glatz in New York.

Stranger in town wants the address of a Polish or Lithuanian physician.

Address of a good dentist.

Two good doctors in Rio de Janeiro.

Logarithm tables.

Value of Churchill and Stephenson, Medical Botany, 3 v. Lond. 1836, and Hutchinson, Biographica Medica. 1799. 2 v.

Sex and common sense by "a woman."

Address of someone trying out Macdonald's cure for high blood pressure.

Publisher and address of the Wisconsin Medical Journal.

Canadian Pacific R.R. desired list of New England Members of the American College of Surgeons.

Boston Post desired a reference in Journal of Mental Science for 1921.

Which is the most widely read medical journal of the U. S. A.?

Address of the New York Academy of Medicine.

Have you lantern slides on biology?

Is the facsimile edition of Canano, Florence 1925, an edition *de luxe*? Is it privately printed? What size is it and is it expensive?

REFERENCE AND RESEARCH

Body weight and growth in children.

Biographical data on Golgi.

Community nursing.

Telephone call from a Judge of the Superior Court; reference to a case of death from traumatic erysipelas.

After-treatment of low Cæsarean operation: emergency: patient dying.

Student at Harvard: Fixed idea of "Fear of Death." To be used in a novel entitled "The Man Who Cannot Die."

Receiver of the Vermont & Quebec Power Corp. Medico-legal references.

Anatomy of the cow.

Anti-vivisection literature.

A work by a San Antonio physician on bats and mosquitoes.

A list of books (classics) on surgery and anatomy from which a selection can be made for presentation purposes.

Bibliography of the writings of Alfred Worcester to be used in a memorial volume.

Prohibition in relation to medicine.

Conservation in orthopædic surgery.

Medicinal value of the vanilla bean. Baker Extract Co.

Left-handedness.

Treatment of cirrhosis of the liver.

Diuretic properties of ammonium chloride and calcium chloride.

List of current medico-legal periodicals.

List of current bio-chemical periodicals.

Selected bibliography on periarterial sympathectomy.

When did Osler change his statement regarding pneumonia as a self-limited disease?

Chemical burns.

Bunions.

How many quarts of blood in the human body?

Book on diagnosis of fifty years ago.

What textbook of anatomy was common in 1800?

The reference to the story of the woman "who lost her lover when she was 25 years old, and developed an idea that he would return and retained her youth and beauty for forty years awaiting his return." Said to have been published in the *Lancet*.

Spontaneous pneumothorax (wanted subcutaneous emphysema into chest wall and breast.)

Nail biting.

Formula for Ham's Plaster.

Use of disease germs as an offensive in the next war.

History of the Boylston Medical Society and Boylston Prize Essays.

DR. SAMUEL H. DURGIN—A HEALTH PIONEER

BY BURT R. RICKARDS

ANY history of the growth and development of public health work in this country would be incomplete without the name and achievements of Dr. Samuel H. Durgin, who served as Chairman of the Boston Board of Health for almost forty years.

Dr. Durgin, who was born in Parsonsfield, Maine, in 1839, entered Harvard Medical School after graduating from Dartmouth College and received his medical degree in 1864. During the last year of the Civil War he served as Assistant Surgeon in the First Massachusetts Cavalry, thus obtaining an experience in emergency operations which under peace conditions might have taken him years to acquire. Many cases of typhoid fever came under his charge and with the lack of adequate facilities for protecting himself, he contracted the disease; but this fact, according to information secured by the writer, did not deter him from ministering to those in more dire straits than himself.

After being mustered out on his twenty-sixth birthday, June 26, 1865, he entered practice in the city of Boston, continuing until 1867, when he entered the service of the city of Boston as Physician to the Deer Island Hospitals and Port Physician.

Up to 1873, health work in the city of Boston was carried on under the direction of a committee of the common council, but with the advent of an outbreak of virulent smallpox, the committee found itself beyond its depth and in need of a competent health administration. A board of three was chosen, of which Dr. Durgin was the only physician. In 1877 he became Chairman, a position which he held until his voluntary retirement in June 1912, the work of the port quarantine continuing under his control. Through his initiative Gallup's Island was purchased from the State and quarantine was divorced from the Deer Island institutions. At the time the Board of Health was established, metropolitan Boston had no drainage system and for years Dr. Durgin fought against determined opposition for the establishment of adequate sewage disposal. He finally won this cause and as a result of his foresight and pertinacity the metropolitan area of Boston was given what was at that time the most up-to-date sewage disposal system in the country.

During his nearly forty years of painstaking service, Dr. Durgin was quick to take advantage of any discoveries or ideas which promised better control of the communicable diseases. Soon after the discovery of diphtheria antitoxin by von Behring in 1894, a plant for the manufacture of this valuable prophylactic and therapeutic agent was started by Dr. Durgin at the quarantine station on Gallup's Island with Dr. Harold C. Ernst, Professor of Bacteriology at Harvard Medical School, as the director. This was continued until the serum was available from other sources. In 1898 he was the prime mover in having the Board of Health establish one of the first city bacteriological diagnostic laboratories, which soon made a reputation among the local medical profession for the accuracy of its diagnoses, and throughout the country for the quality and amount of its research.

Dr. Durgin was one of the first in the country to inaugurate the requirement of two consecutive negative cultures for release of a case of diphtheria, the second culture taken at least twenty-four hours after the first and by a medical representative of the department. Dr. Durgin was the inventor of the wooden tongue depressor now so widely used throughout the civilized world.

The following excerpts culled from a paper written by Dr. Edward M. Greene, one of the first medical inspectors of schools in Boston, and published by him in the *Philadelphia Medical Journal* for February 16, 1901, shows that in putting this system into effect Dr. Durgin was again in the vanguard.

"The first city in this country, or abroad, to establish a system of daily medical inspection in all the public schools was Boston. Since then similar methods of inspection have been adopted in New York City, Chicago, and in most of the large cities, as well as in many of the smaller towns. . . .

"Medical inspection of schools, both public and parochial, was begun in Boston in the fall of 1894 and was secured only as a result of four years of persistent effort on the part of the efficient and progressive chairman of the Boston Board of Health, Dr. Samuel H. Durgin. . . ."

Dr. Durgin's ability properly to evaluate new ideas in public health work and to utilize those which were sound and progressive was equalled by an intuition with which he accurately measured those with whom he came in official contact. Frequently he was able to produce results against tremendous difficulties. He was an expert diagnostician of the communicable diseases, especially smallpox.

That his ability as an administrator and a teacher should be recognized was inevitable. From 1884 to 1909 he was a lecturer on hygiene in the Harvard Medical School. He was trustee of the Floating Hospital for many years and was actively interested in its work. Dr. Durgin is a past president of the American Public Health Association of which he has been a member for fifty-two years. He organized the Massachusetts Association of Boards of Health and served as its vice president for about 20 years. In this capacity he acted also as chairman of the publication committee and was thus responsible for the quarterly journal of the Association

which was the forerunner of the present *American Journal of Public Health.*

About the time of Dr. Durgin's retirement from active service in 1912, the *Boston Herald* for April 29 of that year carried an editorial on the subject written by George F. Babbitt, who served as a colleague of the former on the Boston Board of Health for several terms and thus had an opportunity to know him very intimately. Mr. Babbitt's comments, therefore, some of which we present here, have a special significance.

"Perhaps the most conspicuous of Chairman Durgin's shortcomings, if it may be called such, has been his exceeding modesty. During his long term of service he never acquired or practiced the somewhat prevalent and popular art of blowing his own trumpet, or of mounting the housetops to proclaim the achievements of the department over which he has presided. He has preferred to let results speak for themselves. . . .

"Few public officials have possessed the confidence and support of their profession to the extent that Chairman Durgin has. He could always count upon the practically solid backing of his fellow doctors in his work and they have never faltered in their cordial coöperation with him. . . .

"The difficulties and embarrassments under which so many commissions labor have been avoided under Chairman Durgin's leadership. He has been distinguished for his tact, suavity and uniform courtesy and his relations with his associates have generally been so pleasant as to prevent anything like friction. As the official spokesman of the board he has sustained equally pleasant relations with the general public."

To these sentiments those of us who have had the privilege to work under Dr. Durgin's direction, and to know him as a friend, most heartily subscribe. They fail, however, adequately to describe the sterling character and the lovable qualities which so fully endeared him to his associates.

Although now in his 89th year Dr. Durgin keeps an active interest in public health matters and counts no day so happy as that when, together with some comrade of bygone days, he lives over again in memory some of his oldest campaigns.

RUPTURED PUS TUBE*

BY FREDERICK J. LYNCH, M.D.

A RUPTURED pus tube is one of the rarer causes of an acute condition in the abdomen requiring surgical intervention. The fact that it is not more frequent is probably due to the nature of the infecting organisms and the capacity which the uterus and its appendages have for distention and enlargement.

The pus tube is ordinarily caused by the gonococcus, streptococcus or staphlycoccus. In the gonococcal salpingitis the infection travels by means of mucous membranes and is therefore entirely confined to the lumen of the tube. The organism becomes attenuated in a very short time in this type of tubal infection and the process is checked before any danger of rupture is reached.

In the streptococcal and staphylococcal types the infection travels by means of the lymphatics, and therefore the inflammatory reaction is not confined entirely to the lumen of the tube and the mechanics of the condition is not one which would ordinarily cause rupture.

Rupture is usually produced by the introduction of some force from without, such as a blow, a fall, or as in the cases I am about to report, the pressure of bimanual examination.

In the patient with a known pelvic inflammatory condition, who, following a bimanual examination, shows symptoms of collapse, the possibility of a ruptured pus tube should be prominently considered and an immediate laparotomy done.

CASE I

L. M., twenty-seven years old, came to the hospital with the statement that she had been flowing for the past four days. The last regular menstrual period occurred two weeks previously. The patient did not consider herself pregnant. She stated that she passed some large clots of blood but had had no abdominal pain, vomiting or pyrexia. She had a chill the day before which lasted fifteen minutes. She denied instrumentation.

Vaginal examination demonstrated a parous introitus, a bilateral tear of the cervix and a uterus which was slightly larger than normal, and in the axis of the vagina. Anterior to the uterus there was a tender mass the size of a hen's egg, and there was a very slight bloody discharge.

A few hours later, the same day, the following note was made:—"The patient's condition has changed markedly since the previous examination. There is generalized abdominal tenderness and spasm, particularly on the left side. The patient has been vomiting repeatedly, the pulse is rapid and the tongue very dry."

An immediate laparotomy was done. Upon opening the abdominal cavity a considerable amount of purulent material escaped. The pus was found to

*From the Gynecological and Obstetrical Service of the Boston City Hospital.

be coming from a ruptured tubo-ovarian mass on the left side. This tube and ovary were removed. The adnexa of the other side, although inflamed, were not disturbed because of the patient's poor condition.

Pathological Report No. 439—Peritoneal fluid negative for bacteria.

Pathological Report No. 398—Chronic Salpingo-oophoritis. Corpus luteum cyst of ovary and simple cyst of ovary.

Kahn Test—Positive.

Wassermann Test—Positive.

The patient made an uneventful recovery and was discharged from the hospital twelve days after the operation.

Case II

M. B., aged twenty-one, came to the hospital because of lower abdominal pain, of three days' duration. The pain was "dull and aching" and principally in the left lower quadrant. There had been no nausea or vomiting. The periods had been regular, recurring every twenty-eight days, painless, and lasting three or four days.

Upon vaginal examination the uterus seemed to be slightly larger than normal. A moderately tender mass which extended into both vaults was found in the posterior cul-de-sac. The abdomen was slightly distended, tympanitic and tender in both lower quadrants. The temperature was 101, the pulse 120 and the respirations 35.

Two days later the patient was again examined and with the exception of lessened induration and tenderness the condition was found to be the same. A few hours following the second pelvic examination the patient passed into a state of collapse. The abdomen was rigid and dull throughout. Temperature 101, pulse 140 and respirations 55.

The patient was immediately operated upon. When the abdomen was opened it was found to be filled with foul-smelling pus which was coming from the rupture of a large pus tube on the left side. On account of the patient's poor condition nothing more than drainage was attempted.

The patient died a few hours after she was returned to the ward.

Case III

M. P., aged seventeen, came to the pre-natal clinic because of vomiting which had been going on for three weeks and which became frequent the day before her appearance at the hospital. There had been no other toxic symptoms, but oedema of the ankles had been marked during the past week.

Examination disclosed a seven months' pregnant uterus, not tender, and a foetus presenting by the vertex. The foetal heart was heard in the left lower quadrant. The blood pressure was 190/150.

A catheter specimen of urine showed profuse hematuria and a very large trace of albumin. Blood urea nitrogen 83.9 gms. The patient was given routine treatment for the toxaemia in the hospital, and four days after admission spontaneously delivered herself of a still-born foetus.

The puerperium was characterized by a moderate elevation of temperature, which gradually came down to normal. The toxic condition was improving, slowly, making it seem probable that chronic nephritis existed rather than an acute impending eclampsia. With this idea in mind it was decided to transfer the patient, at the end of three weeks, to a medical service.

The discharge examination was made by the Obstetrical Service at which time tenderness was found in both vaults, particularly the right.

A few hours after this examination the patient began to complain of severe pain in the right lower quadrant. This was soon followed by marked vomiting, rapid pulse and a cold sweat, giving evidence of an overwhelming peritonitis. The abdomen was opened and a ruptured pus tube of the right side was found. A culture from the pus in this instance proved to be Streptococcus Viridans.

The patient showed a temporary improvement following operation, but later lost ground steadily, and died seven days following the laparotomy.

Case IV

M. J., aged twenty-seven, gave a history of having gone three days over her last period, and fearing that she might be pregnant had inserted a catheter in the uterus and allowed it to remain twelve hours. This was immediately followed by severe abdominal pain, lasting twenty-four hours, and by flowing after forty-eight hours.

On the day of admission, she felt feverish and had vomited, but had had no chills.

Vaginal examination showed a parous introitus and a bi-lateral tear of the cervix. The uterus was slightly enlarged and a very tender mass was found in the left vault. The right vault was also tender and spastic but no mass was felt.

Forty-eight hours later the patient's abdomen was more distended, rigid and acutely tender.

The abdomen was opened and free pus was found in the peritoneal cavity, coming from the right tube which was collapsed and firmly adherent to the side of the pelvis.

The left vault was filled with a large fluctuant tubo-ovarian mass which ruptured in the process of attempting to free it, allowing the escape of a quantity of greenish yellow pus.

The abdomen was closed except for drainage. A culture of the pus showed it to be due to the Hemolytic Streptococcus.

The patient made a good recovery and was discharged in eleven days to the Out-Patient Department.

CONCLUSIONS

1. Ruptured pus tube is a rare condition.
2. A patient with known pelvic pathology who shows symptoms of collapse, following a bimanual pelvic examination, should be suspected of having a ruptured pus tube.
3. The treatment is immediate laparotomy and abdominal drainage.
4. The mortality is high, 40% to 50% in cases with early operation.

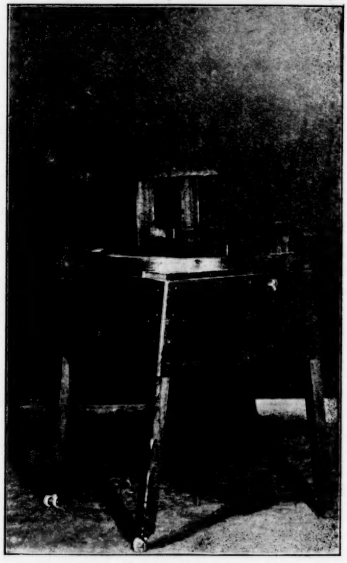
AUXILIARY AMBULATORY DEVICE*

BY PAUL N. JEPSON, M.D.

PATIENTS with chronic arthritis or long drawn-out debilitating diseases are often confined to bed for extended periods of time. If they can be supplied with adequate support, it may be of advantage to get them out of bed and have them walking.

With this in mind, the illustrated walking-frame was devised. It is made from pine boards, and is constructed so as to be adjustable for patients of any height by means of arm pieces. Castors are attached to the two front legs to make it easier for the patient to push the apparatus ahead of him. Castors are intentionally omitted from the rear legs to prevent the walker from sliding out from under the patient. By resting the elbows and forearms on the arm-pieces of the walker, the patient is able to support his body weight, and by grasping the front part of these arm supports, the walker can be lifted or pushed ahead at each step.

It is with a great deal of satisfaction that patients are able to walk about with this sim-



ple device, for by creating an atmosphere of content, the patient is more easily handled and the ultimate results better accomplished.

*From the MacAusland Orthopedic Clinics.

ITALY DECREES COMPULSORY TUBERCULOSIS INSURANCE—Compulsory insurance against tuberculosis has recently been decreed by the Italian Government for all manual workers, whose numbers are estimated at seven and a half millions. The cost, it is expected, will be 300,000,000 lire a year, this fund to be supplied by monthly contributions of 4 lire for each worker, paid in equal shares by the worker and his employer. Equipment of 20,000 beds is planned for the first 10 years of the functioning of the decree.—*United States Department of Labor.*

MADRID PLANS FOR HEALTH EXAMINATIONS IN SCHOOLS—The Civil Governor of Madrid, Spain, has instructed the municipal health officers to examine all school children every three months and to keep records of the physical condition of each child. Reports on the sanitary condition of the school buildings are also required.—*United States Department of Labor.*

Case Records
of the
Massachusetts General Hospital

ANTE-MORTEM AND POST-MORTEM RECORDS AS USED IN WEEKLY CLINICO-PATHOLOGICAL EXERCISES

EDITED BY R. C. CABOT, M.D.

F. M. PAINTER, A.B., ASSISTANT EDITOR

CASE 13551

HYPERTENSION. SUDDEN AND UNEXPLAINED DEATH

MEDICAL DEPARTMENT

A married Englishwoman sixty-two years old entered the hospital November 14 complaining of dyspnea and edema.

Apparently she had been exceptionally well all her life until about two years before admission, when she found that she got out of breath much more easily than formerly and was easily fatigued. There was no marked change until ten months before admission, when she caught a bad "cold" which began as an "asthamatic attack" and lasted all winter. The "asthma" lasted two weeks and was for several hours at a time relieved by inhaling "asthma powders". All winter she had dry cough, usually much worse at night, sometimes waking her and making her sit up. The orthopnea appeared however to have been paroxysmal. Her dyspnea became more pronounced. During the spring, from seven to three months before admission, the cough and dyspnea improved somewhat. Three months before admission the dyspnea again increased in severity. During the summer she had to spend much of her time on a couch. Seven weeks before admission she called a doctor because of dyspnea. He prescribed digitalis, rest and veronal. Six weeks before admission she noticed pitting edema of the legs, loss of appetite, slight constipation and mahogany colored urine. October 8, five weeks before admission, her physician sent her to the Consultation Clinic of this hospital. Examination at that time showed her lips slightly cyanotic, lungs dull at the bases with moist râles at the angles of the scapulae, more on the right, diminished resonance and fremitus at the right base. Gallop rhythm, heart otherwise as upon admission to the wards. Blood pressure 140/120. Radials slightly thickened. Weight 158 pounds. As there was no room in the wards at that time her physician was advised to enforce absolute rest and full digitalization. During the month's interval she had taken a grain and a half of digitalis at first three times a day, then twice a day for most of the remaining time, occasionally only once a day. She did not, however, follow orders for strict rest, but had done a little housework.

Her family history was good. She had been remarkedly healthy all her life. Except for two or three miscarriages, an operation for gallstones twelve years before admission, and arthritis of the finger joints noted seven years before admission, her past history was negative. Three years ago she weighed 165 pounds, her maximum weight. At present she weighed 158 pounds.

Clinical examination showed a slightly obese woman (weight 147½ pounds) lying in a Gatch bed with slight pallor, cyanosis of the lips and fingers and considerable orthopnea. Teeth poor; upper teeth false. Chest expansion fair. Lungs clear and resonant. Location of the apex impulse of the heart not recorded. Percussion measurements, left border 13 centimeters, midclavicular line 8, right border 4.5, supracardiac dullness 5. Heaving impulse. No murmurs or thrills. Loud second sound. Fibrillation. Electrocardiogram showed auricular fibrillation, rate 120, low T all leads, slight left axis deviation. Blood pressure 180/105, pulse deficit 8 to 43, only twice less than 20. Abdomen full. Old median gall-bladder scar. Liver three fingerbreadths below the costal margin, slightly tender. A questionable very small amount of free fluid. Slight pitting edema of the feet, lower legs and sacral area. Pupils, fundi and reflexes normal.

Urine: amount not recorded, cloudy at three of five examinations, dark at three, the slightest possible trace to a large trace of albumin at all, specific gravity 1.020 to 1.036, 2 to 30 leucocytes per high power field at all. Renal function 15+ per cent. Blood: leucocytes 20,500 to 10,600, polynuclears 87 to 80 per cent., 6,830,000 to 4,600,000 reds, hemoglobin 80 per cent., moderate achromia, slight variation in size, shape and staining, a few macrocytes with abundant hemoglobin, one nucleated red cell found, platelets normal, reticulated cells 2 per cent. Wassermann negative. Non-protein nitrogen 39. Fasting blood sugar 108 milligrams.

A portable X-ray plate showed the heart shadow considerably enlarged in all diameters. Both bases were hazy, obscuring the outline of the diaphragm. The entire right chest was less radiant than the left.

Temperature 98.8° to 100°, rectal. Apex pulse 77 to 123. Respirations 26 to 38.

Under rest and codein the patient was much more comfortable the day after admission. November 16 she was put on digitaline Nativelle, a French preparation of digitalis. After taking sixteen tablets (approximately 12 grains of the powdered leaf used in this hospital) she became nauseated. Except for anorexia she was feeling much better than at admission. November 18 she was given no digitalis. She felt and ate better. The morning of November 19 she said she felt very weak and a little more dyspneic than usual. At noon she suddenly sat up in bed,

gasped, became very cyanotic, and dropped back dead.

Discussion

BY RICHARD C. CABOT, M.D.

NOTES ON THE HISTORY

Of course people are very melodramatic in their phrases about the color of urine, as they are about other matters in medicine. If it really were the color of mahogany it might be a very serious condition and would not be at all likely to come from passive congestion. But one wonders if it is any more than ordinary high colored urine.

Examination of the lungs shows all the ordinary signs of passive congestion, probably with some hydrothorax.

NOTES ON THE PHYSICAL EXAMINATION

What is a heaving impulse? How do you recognize it?

A Student: You can almost feel the chest wall lift up until the time you feel the impulse.

Dr. Cabot: I have an idea that your sensations are the same as mine, but I should not describe it in the same way. It is a question of the slowness with which the tissues rise. The ordinary impulse comes and goes quickly. The heaving impulse comes slowly and stays longer. Of course the word heaving is not an exact scientific word, but if you are thinking of the kind of thing that goes with hypertrophied heart it is a slow, powerful impulse which may be over a large area or not, but which is ordinarily not called heaving if it is sudden. Your description might correspond to the same thing, but you speak especially about the end, about which I have not any particular impression. Heaving impulse is an important thing if you are in doubt about cardiac hypertrophy. It often helps you very much. Only you ought to have it demonstrated to you a number of times.

I do not known just why they took that blood sugar. Some of the clinical men are very much interested in the relation between gall-bladder disease and diabetes, and it is presumably the fact that she has previously had gall-bladder disease.

DIFFERENTIAL DIAGNOSIS

The record reads like that of a straight cardiac case. Certainly there is nothing to prove damage to the kidneys. Here is a woman of sixty-two with cardiac trouble, presumably of the arteriosclerotic or hypertensive type. We have a big heart proved by X-ray and suggested otherwise. We have a moderate amount of passive congestion. We have nothing in the earlier history to make us think anything is wrong with the heart, and that is what we should expect in the type of heart trouble commonest at her age. I do not see how anybody can reason out any other diagnosis than that of hypertension, presumably with arteriosclerosis. I think there will be a big heart, especially the left ventricle, normal valves, kidneys not showing nephritis, but showing probably some involvement in the general arteriosclerotic process which is likely to occur in a case like this.

The blood is a little queer. There seems to be a little secondary anemia judging from the smear, and yet from the figures given you could hardly say so. I do not believe it has any special bearing on the case.

The only thing that we can discuss is, Why did she drop dead suddenly? And if you notice how often we do not explain that even after death you will not feel quite so enthusiastic about arguing about it as I used to years ago. More than half the cases of sudden death that I have discussed here have not been explained at necropsy. We say the commonest causes are cerebral hemorrhage, cardiac infarction and pulmonary embolism; but more often than not we do not find any cause. So I should say the first probability is that we shall not find any cause of sudden death. Second, it is perfectly possible she had a cardiac infarction. She had no pain, but perhaps she died too quickly for it. Third, it is possible that she had a pulmonary embolism. She had no symptoms of it, but if embolus was in one of the larger branches there is no reason why there should be symptoms of it. She was cyanotic. She died quickly, with no indication of paralysis. I do not see how we can say cerebral hemorrhage. I can not remember a case of cerebral hemorrhage that died as quickly as this. My impression is that the quick deaths are not often proved to be due to cerebral hemorrhage. So I should say the chances are against cerebral hemorrhage, but that is all I can say.

I think Dr. Mallory will say that she had arteriosclerotic hypertrophied heart, general passive congestion, some arteriosclerosis of the kidneys, but no nephritis.

As to the possibility of an acute infection as suggested by the leukocytosis, there is nothing particularly worth while to say. There are no physical signs to tell us what infection if any is present, but we know it may be one of two or three without physical signs. As to the cause of sudden death, I have nothing to add.

A Student: How about the chest plate, Dr. Cabot?

Dr. Cabot: That shows, so far as I know, a hypertrophied and dilated heart, without particular evidence of pericarditis. That is not a seven foot plate, I take it. They usually have figures marked on the seven foot plate. Otherwise it shows hydrothorax, passive congestion and nothing else that I recognize. Of course the aortic knob is a little prominent, but that is often prominent in arteriosclerosis.

A Student: But I mean the difference in the two sides in the lungs.

DR. CABOT: When we find hydrothorax we usually find more on the right than on the left. I do not see any other difference there.

A STUDENT: What is the relation between auricular fibrillation and fibrous myocarditis, if any?

DR. CABOT: None that I know.

A STUDENT: Would rupture of the heart be a possible cause of sudden death?

DR. CABOT: Yes; I do not see how you can deny the possibility. Ordinarily it is preceded by symptoms of cardiac infarction for weeks or months. I will vote against it.

A STUDENT: What condition of the heart do you expect to precede and cause auricular fibrillation?

DR. CABOT: Auricular fibrillation occurs in every type of heart trouble that I know, in rheumatic disease, syphilitic disease, hypertensive, arteriosclerotic and thyroid trouble. It also occurs without any of these. It occurs in infectious diseases without any demonstrable lesion of the heart except "cloudy swelling." It is a very common state of things and cannot possibly be linked up with any one or two or three cardiac lesions. It merely means that the heart is doing badly at the time.

A STUDENT: How do you account for the kidney symptoms, sir?

DR. CABOT: What would you call kidney symptoms here?

A STUDENT: That renal function test of fifteen per cent.

DR. CABOT: The more you follow these cases at necropsy the more you will get used to the fact that you find many cases with renal functions of fifteen, ten and five per cent. in perfectly normal kidneys. I do not see anything like renal disease here except that low renal function. Some people might interpret it as renal disease. I should not.

A STUDENT: Do you get a large trace of albumin time and time again in chronic passive congestion?

DR. CABOT: Certainly; there is nothing unusual about that at all.

CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Arteriosclerotic and hypertensive heart disease.
Congestive failure.
Auricular fibrillation.
Coronary occlusion?

DR. RICHARD C. CABOT'S DIAGNOSIS

Arteriosclerotic hypertensive heart.
Chronic passive congestion, general.
Arteriosclerosis of the kidneys.

ANATOMICAL DIAGNOSIS

1. *Primary fatal lesion.*

(Primary hypertension.)

2. *Secondary or terminal lesions.*

Hypertrophy and dilatation of the heart.
Chronic passive congestion of liver, lungs and spleen.
Hydrothorax.
Ascites.
Infarct of the right kidney.

3. *Historical landmarks.*

Chronic cholecystitis.
Mucous polyp of the uterus.

DR. TRACY B. MALLORY: The heart weighed 500 grams,—considerably hypertrophied. The valves were entirely negative except for slight sclerotic thickening at the base of each of the aortic cusps.

The coronary arteries were entirely negative. The myocardium showed no sign of infarction. The aorta showed very little arteriosclerosis.

The lungs showed a slight degree of emphysema and considerable chronic passive congestion.

The peritoneal cavity contained considerable fluid, and there was evidence of the old operation in the form of marked adhesions in the gall-bladder region.

The gall-bladder was still present and presumably the stones had been removed without amputation of the gall-bladder.

The liver showed very marked longstanding chronic passive congestion, as did the spleen.

The kidneys weighed 310 grams. The cortex measured from five to seven millimeters. The capsules stripped very easily and left only a few small irregular scars on the surface. The right kidney showed a firm white wedge-shaped patch about one centimeter across the base and extending down half a centimeter into the parenchyma,—the typical appearance of a kidney infarct of considerable standing, since it was not surrounded by a zone of hemorrhage, which we always find with fresh infarctions. So except for the infarcts and the slight degree of chronic passive congestion they were entirely normal kidneys.

DR. CABOT: What was the cause of sudden death?

DR. MALLORY: None was found.

CASE 13552

A SINGLE CONDITION INVOLVING BOTH THE URINARY AND THE DIGESTIVE TRACT

SURGICAL DEPARTMENT

An American sixty-two years old, an enamel worker, entered July 13 complaining of pain in the left lower quadrant and more recent pain on urination.

Although the patient said he had had pain in the left lower quadrant for two years it was believed that the onset was probably eight or nine months before admission. The pain was grip-

ing and non-radiating and was induced by motion, particularly by going up and down stairs. On going downstairs he had to put his right foot first and for a long step he had to go backward. Seven months before admission his bowels, which had previously been regular, became constipated, and with the movements he had griping pains. For five months they had been loose under medical treatment for stomach trouble, and had contained mucous material. This had increased lately. Two months before admission he passed about half a cupful of blood with two large clots. Since that time more than half his stools had contained blood, but never very much. For the past three weeks the left lower quadrant pain had radiated down the front of his legs. For twenty years he had had urgency. He remembered no other early symptom except nycturia. Ten years before admission he had a prostatic abscess which broke and discharged through the penis. Then the left testicle swelled up. It was tapped twice, with withdrawal of greenish fluid. Records of the Out-Patient Department confirm this history and show that the condition was thought to be due to infection of the prostate. Exploration of the testicle was advised but was never done. For the past three years he had had incontinence. The frequency had gradually increased so that now he urinated as a rule ten or twelve times by day and six or seven times at night. He frequently had urgency and then passed only a tablespoonful of urine. The urine was occasionally cloudy. For three weeks he had had pain and burning on urination. The pain began apparently at the bulb and passed down the urethra with the urine, stopping at the end. It occurred only once each time he urinated. The stream was of good size and passed freely. He denied venereal disease and said he had had no stricture. A year ago he weighed 230 pounds, four weeks ago 204. Most of the loss was in the previous autumn.

His father died of "shock". His wife had had two miscarriages between the births of two healthy children.

The patient had rare sore throats. In the past three or four years he had had dyspnea on exertion, less marked since he lost weight. For the past four or five years he had had tinnitus. For years he had chewed twenty cents' worth of tobacco a day in order to stand the bad gas in the enamel works.

Clinical examination showed an obese man not acutely ill. The teeth were decayed. There was pyorrhea. The heart showed no enlargement. Sounds and action normal. There was a moderately loud systolic murmur heard at the apex, transmitted slightly in all directions. The abdomen was flabby. There was a hard mass the size of an orange, not very freely movable, in the left lower quadrant protruding out over the pubes, seemingly behind the abdominal wall. There was some tenderness in this region. The liver edge was felt two centimeters below the costal margin on deep inspiration. Rectal examination showed a few old hemorrhoidal tabs and one or two internal hemorrhoids. There was a flabby cystic right hydrocele the size of a lemon. The extremities, pupils and reflexes were normal.

Amount of urine not recorded, urine cloudy at one of three examinations, a trace to a large trace of albumin at all. Sediment loaded with leukocytes. Blood: 9,700 leukocytes, hemoglobin 55 per cent., reds 3,300,000. Stool, guaiac strongly positive.

Temperature before operation 98° to 102.3°, pulse 60 to 100, respirations normal except for one increase to 30 July 18.

X-ray examination with a barium enema was not entirely satisfactory as the patient had considerable difficulty in retaining the enema.

Cystoscopy was done July 15. The cystoscope entered easily. The prostatic orifice presented no gross abnormality. The bladder was diffusely hyperemic. The vault of the bladder showed much puckering edema and congestion with infolding of the mucosa. It gave the impression of not being a tumor but of being probably connected with an inflammatory mass outside the bladder wall, with a suspicion of the presence of a hidden fistula which could not be demonstrated. Urine from the right kidney showed 20 to 30 leukocytes and 10 to 15 red cells per high power field. That from the left kidney showed 40 to 50 leukocytes and rare red cells. Cultures from both specimens showed colon bacillus.

A second barium enema was now given. The rectum and the rectosigmoid were dilated. Several attempts to get the barium beyond the sigmoid were unsuccessful. When the barium reached this point the patient complained of considerable discomfort.

July 21 operation was done. Two days later the patient seemed quite well except for some respiratory distress. There was a very slight amount of serous drainage. On the 27th this was very thin, suggesting a mixture of urine and pus. Methylene blue given by mouth came out through the drainage canal. July 31 all but the stay sutures were out. The wound was red and looked somewhat septic. The patient complained of soreness in the left side two inches lateral to the left nipple, not increased on breathing, and of soreness in the leg. The following day the soreness in the chest was gone and the legs were more comfortable. He was having frequent loose movements. He ate nothing. August 3 the legs were normal. The temperature went up to 102° that night. He complained of burning in the last part of urination. August 5 he vomited. The temperature continued. There was discharge from the sinus in the inferior end of the wound. Frequent stools, particularly at night, continued. August 7 he was still vomiting all solid food, and retained fluids with difficulty. August 9 a cystogram

showed an essentially normal bladder in size, shape, etc. August 16 he began passing feces in urine. The urine was loaded with pus. He was nauseated. The abdomen was soft but tender in the lower half. August 19 the patient had a chill, temperature and an elevated leukocyte count. A urological consultant advised against operating at present. August 21 the chart was normal. August 22 he seemed a little better. He was mentally hazy, slept a good deal and seemed somewhat euphoric. The temperature rose to 103°. August 25 it was again normal. August 26 it was 100.5°, after this normal. The patient was slightly irrational. There was considerable dysuria but no residual. The urine was loaded with pus. August 29 the patient died.

Discussion

BY EDWARD L. YOUNG, JR., M.D.

That is, the pain was induced by motion which would use the iliopsoas group more than ordinary walking.

Of course this is an unusual finding in the prostate and it suggests one of the more unusual conditions, such as a central abscess of the testicle rupturing into the tunica with a low-grade infection of the hydrocele fluid.

We have to make a diagnosis here connecting both the intestinal and the urinary tract, and there are two conditions which will do that. This has gone on apparently for longer than his somewhat confused statement of symptoms would admit. The old story of epididymitis is presumably not connected with the picture.

It is not necessary to have venereal disease in order to have a prostatic abscess. I have operated on one that was definitely not gonorrheal and I have seen others that were surely not. So it is perfectly possible that this was a colon bacillus or staphylococcus infection going on to rupture. All the other symptoms can be due to infection in the urinary tract which has been going on for some time.

There are two things here very definitely. One is a lesion of the intestinal tract, as shown by change in bowel behavior, the passage of mucus, the passage of blood. We know also that he has an infection in the urinary tract. He has a mass which can be felt in the left lower quadrant and he has a cystoscopic picture which may or may not mean anything more than the close relationship of the bladder wall to a diseased mass outside. This mass is in relation to his iliopsoas group of muscles, as evidenced by the marked irritation on use of that group of muscles.

What are the possibilities? There are only two things that can be seriously put into this classification. One would be malignant disease of the sigmoid which has grown extrinsically, attached itself to the bladder wall and irritated the bladder. The other is an inflammatory process, a diverticulitis of the sigmoid. And when we say diverticulitis there is always the possibility of carcinoma starting up in that. The fact that cystoscopy shows what it does is entirely consistent with a fistula which cannot be demonstrated. The barium enema of course is consistent with it. We have evidence of an obstruction there, but it does not help us as to which of these two conditions might be present.

Is it possible that this is an abscess which came from an infection in the urinary tract first, rather than the intestinal tract? I think that is pretty nearly out of the question.

I do not see that the X-ray plates help us at all.

I see nothing more to do except to operate. I do not know of any other diagnosis that I should believe worth considering with the evidence here given.

Dr. Lincoln Davis: At rectal examination they spoke of the hemorrhoidal tabs, but apparently were not able to feel the mass by rectum.

Dr. Young: Apparently. It goes up quite a way to the lower sigmoid.

Dr. Davis: There is no evidence of proctoscopy?

Miss Painter: No, none.

Dr. Young: That is about the upper limit of where it would reach, according to the X-ray.

Opinion of Urologist After Cystoscopy

I believe this is a pericystitis, perhaps due to sigmoid diverticula. Advise drainage.

X-Ray Interpretation

The findings are those of an obstructing lesion in the region of the sigmoid.

Pre-Operative Diagnosis

Carcinoma of the sigmoid?

Operation

Gas-ether. Through a low left rectus muscle splitting incision the peritoneum was pushed back from the pubic region and an attempt was made to break into the mass extraperitoneally. The mass felt very firm, irregular and of a semi-elastic consistency. No soft area could be felt. It could not be broken into. The incision was then carried upward and the abdomen explored. There was nothing in the liver. The intestines were well emptied. There were no glands in the region of the iliac vessels. The mass, now easily palpated, filled the entire pelvis and seemed to be attached to the region of the bladder and to the sigmoid. It could not be definitely ascertained that there were free diverticula present or that this was a malignant mass. It was decided to close the abdomen and place a cigarette drain extraperitoneally above the pubes. This was done in the belief that if the mass was inflammatory it would drain out through the rectum or break into the region of the drain, and that if it were malignant the condition would probably progress. Rectal examination under ether failed to add any information. The mass could be palpated easily from

below. There was a considerable amount of pus in the rectum at the time of the examination.

Further Discussion

They seemed to favor carcinoma a little more than an inflammatory condition.

They note a liver two centimeters below the costal margin, which suggests metastases.

I do not see that we are much further along than we were before, but it suggests more to me an inflammatory mass, whether malignant or not it is hard to say.

What will happen to methylene blue given by mouth? Will it go through the intestinal tract?

Dr. Cabot: I think not.

Dr. Young: It just means that it was absorbed and came out through the urinary tract.

I think we have to leave it to Dr. Mallory to tell us whether this is essentially malignant or inflammatory.

Dr. Cabot: Why wouldn't it have been a good thing to take out a piece and examine it?

Dr. Young: It would have if it could have been done. I do not quite understand why they could not go any farther, but it is very easy to say that when one doesn't see the mass. I think it would have been very nice to have a piece for examination, but it is often the part of wisdom to refrain.

Dr. Cabot: I do not mean just for scientific purposes, but to see what could be done.

Clinical Diagnosis (from hospital record)

Diverticulitis of sigmoid.
Extraperitoneal abscess, left lower quadrant.

Dr. Edward L. Young's Diagnosis

Malignant disease of the sigmoid?
Diverticulitis?

Anatomic Diagnosis

1. *Primary fatal lesion.*

Adenocarcinoma of sigmoid.

2. *Secondary or terminal lesions.*

Abscess of the abdominal wall.
Pulmonary infarct, healed.
Arteriosclerosis.

Dr. Tracy B. Mallory: Post mortem we found a large carcinoma of the sigmoid which was firmly adherent to the bladder, and had ulcerated through in one area, producing a fistula between the sigmoid and the bladder. The bladder, possibly as a result of this, possibly from his previous prostatic difficulties, showed a marked cystitis, almost gangrenous in type, and that infection had spread upward to the pelves of the kidneys and the kidney parenchyma.

He also showed an extreme degree of coronary sclerosis with almost complete obliteration of the descending branch of the left coronary, yet we have no history of angina. That is not such an uncommon finding, of course.

There was a practically healed pulmonary infarct, which probably goes back to his operation. The other findings are not of any great significance. The testicle was not examined.

Dr. Cabot: I suppose this man having had symptoms so long one could say that it was partly his own fault that so little could be done when he got here. I suppose you would say, wouldn't you, Dr. Young, that he would have had a real chance earlier?

Dr. Young: I think it is fair to say that any carcinoma of the sigmoid has a very good chance if seen early enough, because it metastasizes late as a rule and clinically is a favorable spot for dissection and cure.

Dr. Mallory: Even at this date there was no metastasis.

Dr. Davis: I remember now that I sent this man to the hospital. I was off duty at the time and was not sorry to have another surgeon operate on him. It looked like a very bad case. Of course the only possibility was to look in there and see what could be done. As to these masses which we get sometimes in the region of the sigmoid and in regard to which we are in doubt as to whether they are carcinoma or diverticulitis, I feel that sometimes we get into serious trouble trying to determine that point. We separate a few adhesions, and the first thing we know we have broken into the interior of the bowel. So I should not criticize the surgeon for leaving the mass alone. He saw that it was a pretty hopeless situation.

Dr. Cabot: When we get at these cases fairly early, what chance can we offer by operation?

Dr. Davis: I cannot give you the figures for carcinoma of the sigmoid. I remember a statement of Dr. Will Mayo's that carcinoma of the splenic flexure gives the best prognosis of carcinoma anywhere in the alimentary canal. I was rather surprised at that. We do not have many of those cases here I should say. The sigmoid is quite favorable if it is a scirrhous form of cancer.

Dr. Cabot: Friends sometimes ask me about the propaganda for the early recognition of cancer,—whether we can wholeheartedly back that up, whether there is a good scientific reason for thinking that if we can get at cancer earlier we are going to get better results. I do not know how much we can sustain that in the intestine.

Dr. Davis: I had a classmate who was operated on very early by Dr. Eliot. He was operated for obstruction and they found a small scirrhous cancer of the sigmoid. He did not know what the operation was done for. He lived fifteen years in perfect health and died of another disease. Once he said to me, "Cancer of the bowel has never been cured, has it?" And there was a man who was clinically cured and did not know it. That was a sample of a very brilliant result.

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A HISTORY OF SCIENCE

THERE have been many books written on the history of some one aspect of science such as medicine, mathematics and chemistry, but none on the broad subject itself. Only an author with the widest sense of vision, who views countries and men in terms of centuries and who has a familiarity with all sciences could write a book on a scale equal to the occasion. Fortunately, in Dr. George Sarton, of the Carnegie Institution of Washington and Harvard University, we have a man capable of the test, and scholars in all countries will welcome his recently issued, colossal volume on the history of science, the first of a series of eight proposed by the author.*

The book is written on a chronological basis, each half-century, or, in some cases a whole century, being designated by the outstanding man of science of the time. This volume carries us to the second half of the eleventh century, "The Time of Omar Khayyam", the chapter heading of which seems strange to one's ears until we realize, with Dr. Sarton's guidance, that Omar was a distinguished mathematician as well as a poet. Each section opens with a brief survey of the period, skillfully arranged so that the reader may peruse these parts in order and thus obtain a continuous chronological story without becoming involved in the multitudinous details of bibliographical data with which the book is so fully equipped and which make its value as a reference book for the research scholar vastly superior to any other source-book today. The average medical reader will find much that is non-medical in a book of this character and yet physicians with an historical bent will be pleased to note that medical men figure in the chapter headings of seven out of the thirty-four half or full centuries: Hippocrates, Aristotle, Celsus, Galen, Oribasius, Alexander of Tralles and Rhazes; all, except possibly Aristotle, were practitioners. The part played by physicians, next to the mathematicians, was of the greatest importance in developing systematized, positive knowledge. Their relation to science in general is clearly emphasized in this book, for Sarton writes a true history of science and not a history of sciences. He gives us a world view of a period which will serve to guide scholars who wish to undertake special investigation without loss of perspective.

*Introduction to the History of Science. Vol. I from Homer to Omar Khayyam, by George Sarton. pp. 837. The Williams and Wilkins Co., Baltimore, 1927.

THE FUNCTION OF THE EPIGLOTTIS

FOR many years it was thought that the epiglottis acted as a flap over the laryngeal aperture and fell back during deglutition in order to prevent ingress of food or water. This view has now been disregarded as it has been found that during swallowing the epiglottis actually moves forward against the base of the tongue. In patients whose epiglottis has been destroyed by disease the power of swallowing remains unaffected. In many of the lower animals, moreover, no traces of this organ can be found, yet they swallow easily. It has been shown, also, that the epiglottis is not needed during forced respiration, nor is it needed for phonation. Many song birds have no epiglottis at all.

These points have been discussed in the introductory paragraphs of a paper by Negus*, who points out that the epiglottis is best developed in such animals as the deer and antelope. He believes that the structure is an accessory olfactory organ and that "its primary function is to aid certain species which rely on powers of scent, sometimes for their actual existence." When the mouth is open in eating, the epiglottis prevents the air from entering the mouth by shutting off the buccal cavity and ensures that all inspired air shall enter by the nose, thus passing over the olfactory mucous membrane. Most animals, therefore, which are keen scented have a well developed epiglottis, as well as a long, soft palate. By coaptation of these two organs, air is prevented from entering by the mouth. This function is especially useful in macrosmatic animals; in man, who belongs to the microsmatic species, both structures are relatively deficient.

*The Function of the Epiglottis. Journal of Anatomy, 1927, LXII, 1-8.

A CRISIS IN BOSTON'S DIVISION OF NURSING

THREE years ago the Community Health Association of Boston transferred its child welfare work to the City Health Department, the prosecution of this work becoming a function of the Division of Nursing. Other duties of this Division had to do with the tuberculosis program, nursing work in the health units, communicable disease activities, health work in the parochial schools and special endeavors in the fields of nutrition, mental hygiene and posture. Boston was fortunate in securing as Director of this most important division a highly qualified nurse who has shown marked ability in its management. When she assumed the position in January, 1925, she accepted a salary of $2500 in the belief that considerable increases might be looked for as the work developed. Since then the nursing staff of the Division has increased from about 30 to about 110. Now it appears that, after making considerable financial sacrifices for several years, seeing little prospect of receiving an adequate salary in the near future, and feeling that her work has not been appreciated she is said to be seriously considering giving up her position. At the same time we are informed that the Mayor has consented to an adequate salary of $3,500 but that it will probably not be available for about two years.

It would be a severe blow to the Division of Nursing and thereby to the entire program of the Health Department of Boston if the Director of this important division is not granted a salary somewhat commensurate with the importance of the position. Corresponding positions in Chicago, Cleveland, Detroit, New Haven, New York, Philadelphia, St. Louis, San Francisco and Toronto carry salaries varying from $3,000 to $3,600. The monograph on Community Health Organization, published by the American Public Health Association, allows, $4,000 as the salary of the Chief of the Bureau of Nursing in a large city. To quote from the above monograph, "For the administration of such a large organization as is here provided for, a woman of experience and high natural capacity will be needed and the salary should be commensurate with those paid to the more responsible bureau chiefs."

An eminent authority in this field in commenting upon this situation, says, "The key point in the health program of the city at the present moment is as it seems to me the development of the nursing service of the health department. The progress made in the development of the child welfare nursing has been notable and most creditable, and the transfer of tuberculosis nursing to the health department is an admirable step which promises much for the future. These changes, however, have placed an enormous burden upon the director of the Division of Nursing and if that director is not a woman of high caliber, sound standards and gifts of personal leadership, the whole program will inevitably fail. Boston is I think very fortunate in the present director of this division and if as I am told her salary is at present only $2,600 and is to be increased during the coming year to only $2,800 there is a glaring discrepancy between the size of the job and its compensation. I am perfectly certain from my knowledge of the general field throughout the country that this is a position which should command a salary of $3,500 to $4,000 and that it would be quite impossible to get anyone competent to administer it wisely for less than this sum. I earnestly hope that it may be possible to fix this salary at $3,500 for the coming year at any sacrifice elsewhere."

Another one of the leading Public Health Authorities, who made a study of the administrative control of tuberculosis in Boston last year, emphasized the value of the nursing follow-up in tuberculosis and in writing to Mayor Nichols on this topic, after stating that the present Director was worth at least $3,500 a year, said, "Of the three fundamental elements in the control of tuberculosis, namely: provision for diagnosis at clinics, hospitalization of open and active cases in public hospitals or sanatoria, and the supervision of cases in their homes, it is fair to say that by means of the last of these three, the nursing follow-up, the greatest good is done to the families by educational methods and the largest number of previously undetected cases are brought to light. It is therefore of the utmost importance that the character of the public health nursing provided for your community by the Nursing Division of the Department of Health should be kept on at least as high a level professionally as the quality of diagnostic skill provided in the clinics and the institutional care of the tuberculous in sanatoria.

"If it is possible for you to obtain favorable consideration of her position to the extent of increasing her salary, I believe more will be done for the nursing supervision of tuberculosis and for the protection of maternity and infancy in the homes in Boston then can be obtained by any other similar investment through public funds."

At the time of writing this, a committee from the Boston Health League (the organization which sponsored the transfer of the child welfare work to the City Board of Health) is waiting to confer with Mayor Nichols on this question. The issue seems clear; either the salary attached to the position of Director of the Division of Nursing must be increased to an amount which will correspond with that paid in other cities, or a Director of inferior qualifications may have to be accepted. We can find no more forceful way to close the argument than by another quotation, "There can, I think, be

few desks at the city hall whose occupants will play a more vital part during the next few years in the promotion of the welfare of the citizens than that occupied by the director of this division. Furthermore the whole country is watching the success of Boston's pioneer work in generalized health department nursing. It would be a calamity to the whole cause of public health if this should fail."

THIS WEEK'S ISSUE

CONTAINS articles by the following named authors:

RICE, ALLEN G. A.B., M.D. Harvard Medical School 1905, F.A.C.S., Visiting Surgeon at the Springfield Hospital. His subject is: "The Unrelieved After Surgical Operation." Page 1341. Address: 33 School St., Springfield, Mass.

LANCASTER, WALTER B. A.B., M.D. Harvard Medical School 1889, F.A.C.S., Consulting Ophthalmic Surgeon at the Massachusetts Eye and Ear Infirmary, Chairman of Ophthalmic Section of the American Medical Association, President of the American Board of Ophthalmic Examinations. His subject is: "Fundus Changes in Arteriosclerosis and Nephritis and their Significance." Page 1346. Address: 520 Commonwealth Ave., Boston.

STOKES, WILLIAM ROYAL. Sc.D., M.D. University of Maryland School of Medicine 1891, Assistant Resident Pathologist at Boston City Hospital, Instructor of Postgraduates at Johns Hopkins Hospital, Professor of Pathology and Bacteriology at Baltimore Medical College, Associate Professor of Pathology and Bacteriology at University of Maryland, Professor of Pathology and Bacteriology at College of Physicians and Surgeons at Baltimore, Professor of Bacteriology at University of Maryland, Director of Laboratories, State and City Department of Health, Baltimore, Director of Bureau of Bacteriology, Baltimore Health Department. Address: Health Dept., Baltimore, Md. Associated with him is

MCCLEARY, STANDISH. M.D. College of Physicians and Surgeons, Baltimore 1890, Assistant Medical Examiner for Baltimore, Professor of Pathology at University of Maryland and Associate Professor of medicine at University of Maryland. Address: 1069 Linden Ave., Baltimore, Md. They write on "A Case of Pulmonary Mycosis." Page 1350.

JEPSON, PAUL N. B.A., M.S., M.D. University of Pennsylvania 1920, Member of the Staff of the Massachusetts General Hospital Orthopedic Service and Fracture Service. His subjects are: "Structural Abnormalities of the Foot." Page 1353. and "Auxiliary Ambulatory Device." Page 1364. Address: 412 Beacon St., Boston.

BALLARD, JAMES F. Assistant Librarian Boston Medical Library. His subject is: "Information, Reference and Bibliographic Service." Page 1355. Address: 8 the Fenway, Boston.

RICKARDS BURT R. S.B., Formerly Assistant Director and Director Boston Board of Health Laboratories, Director of the Ohio State Department of Health Laboratories, Editor of the *American Journal of Public Hygiene*, now Director of Division of Public Health Education New York State Department of Health. His subject is: "Dr. Samuel H. Durgin—A Health Pioneer." Page 1361. Address: Dept. of Health, Albany, N. Y.

LYNCH, FREDERICK J. Harvard Medical School 1919, Junior Visiting Surgeon for Gynecology and Obstetrics at Boston City Hospital, Visiting Obstetrician at Cambridge City Hospital and St. Mary's Infant Asylum, Instructor of Obstetrics at Tufts Medical School, Assistant in Gynecology at Harvard Medical School. His subject is: "Ruptured Pus Tube." Page 1362. Address: 475 Commonwealth Ave., Boston.

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What is the Treatment of Pyelitis in Pregnancy?

Pyelitis is an acute inflammation of the pelvis of the kidney which may occur during pregnancy, but is present more frequently in the puerperium. This fact suggests that the use of the catheter, at least in operative deliveries, is a not infrequent cause of the condition and its use should be followed by the administration of hexamethylenamin.

The condition may result from an ascending infection from the bladder, from direct invasion from the intestines through the lymphatics, or from a hematogenous infection.

The condition manifests itself by the appearance of fever, chills, high leucocyte count and pain on pressure in the costovertebral region. Urination is frequent, sometimes painful and an examination of a specimen reveals many pus cells and an acid urine.

The symptoms, at times, may resemble very closely the symptoms of appendicitis. The presence of the pus cells in a catheter specimen, and the costovertebral tenderness, however, usually point to the diagnosis. It should be said that pus in a *voided* specimen has no significance because of usual presence of vaginal secretions in such a urine. Also, the examination of a single specimen which may contain no pus is not conclusive, because a plug of mucus in the ureter may temporarily prevent the drainage of the affected side, and a later specimen will show many leucocytes.

The disease has an inclination toward self limitation. It may be treated by giving hexamethylenamin by mouth in conjunction with a drug to increase the acidity of the urine such as sodium benzoate or acid sodium phosphate. Fluids should be taken in large amounts. Ice bags to costovertebral region and course of the ureter are grateful.

Raising the foot of the bed is said to relieve the pressure of the uterus on the affected ureter as it crosses the pelvic brim. Changing the reaction of the urine from acid to alkaline for the purpose of subjecting the organism to an unfavorable medium, may be helpful. Finally, in persistent cases, cystoscopy with catheterization of the ureters and lavage of the kidney pelvis with sterile water or a weak silver salt solution is, in certain cases, followed by a marked improvement.

Questions of a similar nature to the above will be discussed in the JOURNAL each week. They may be addressed to the Clerk of the Committee in care of the JOURNAL and will be answered by members of the Committee of the Section of Obstetrics and Gynecology.

LEGISLATIVE NOTES

ANYBODY who is interested in Legislation and does not know the name of the Senator or Representatives of his District may secure this information by applying to the BOSTON MEDICAL AND SURGICAL JOURNAL.

Bills Submitted to the Legislature of Interest to Physicians.

F. Mason Padelford (through Representative Ashton of Fall River) has introduced bills similar to the ones he has previously sponsored for the repeal of the compulsory vaccination law.

One bill contains the following provision:

Petition of F. Mason Padelford for legislation to require documentary evidence of the purity of vaccine virus.

Section 1.

Any person who inoculates another person with vaccine virus shall present to the person so inoculated at the time of the operation, a statement in writing signed by the person who performs the operation, guaranteeing that the vaccine virus used upon the body of the person inoculated is free from living germs of smallpox, bacilli of tuberculosis, bacilli of tetanus, spores of tetanus, and any other pus-producing micro-organisms.

Section 2.

Any person who fails, neglects or refuses to comply with the provisions of this act shall be subject to a fine of $100 or to imprisonment for 90 days for each offense.

Another petition of Dr. Padelford's is as follows:

Petition of F. Mason Padelford for legislation to insure the purity of vaccine virus.

Section 1.

No person shall inoculate any child or person with a virus or product that contains living germs of smallpox, or that is capable of causing smallpox.

Section 2.

Distributing, selling or offering for sale, or having in possession with intent to distribute or sell or use, any preparation of what is supposed to be, or is represented to be, cowpox virus, or any product which is designed to be used as such, which contains bacilli of tuberculosis, bacilli (or spores) of tetanus, or pus-producing micro-organisms, or any living micro-organism except those of cowpox, is hereby forbidden.

Section 3.

Any person or persons, board, firm, or corporation or any agent of the aforesaid persons, boards, firms, or corporations who violates the provisions of either, or both of Sections 1 and 2 of this act shall be fined not less than $100 or be imprisoned for not less than 90 days for each offense.

Section 4.

Nothing in this act shall be construed as to prevent the manufacture of vaccine virus in the laboratories of the Massachusetts State Board of Health or in the laboratories of vaccine manufacturers licensed by the said Massachusetts State Board of Health.

Section 5.

This act shall take effect upon its passage.

A third petition follows:

Petition of F. Mason Padelford for legislation to abolish compulsory vaccination in certain instances.

Section 1.

Any child or person who has reached the age when attendance at school is permitted or required, and who is otherwise eligible for enrollment, who presents a written statement, signed by himself or herself in case the person has reached the age of 21 years, which states that such parent, guardian or person is opposed to vaccination shall not, as a condition to admission or attendance at school be required to submit to vaccination.

Section 2.

All acts and parts of acts inconsistent herewith are hereby repealed.

Section 3.

This act shall take effect upon its passage.

Representative Slater Washburn of Worcester introduced a petition as follows:

Petition of an act requiring the vaccination of certain children in private schools.

Section 1.

Chapter 76 of the general laws, hereby amended by striking out section 15 and inserting in place thereof the following:

Section 15.

A minor under 14 years of age who has not been vaccinated shall not be admitted to a public or private school except upon presentation of a certificate signed by a registered physician that the physician has at the time of giving the certificate, personally examined the child and that he is of the opinion that the physical condition of the minor under 14 years of age is such that his health will be endangered by vaccination. The said certificate shall state the reasons for the opinion of the physician who signs it, and shall be valid only for one year from the date thereof. A minor under 14 years of age who is a member of a household in which a person is ill with smallpox, diptheria, scarlet fever, measles or any other infectious or contagious disease declared by the department of public health to be dangerous to the public health, or of a household exposed to such contagion from another household as aforesaid, shall not attend any public or private school during such illness until the teacher of the school has been furnished with a certificate from the board of health of the city or town or from the attending physician of such person stating that the danger of conveying by the child has passed.

Section 2.

This act shall not be construed to affect the rights of any foreigners admitted to this country under treaty stipulations which are inconsistent herewith.

The following bills are scheduled:

House 226. An Act to Create a Division of Preventive Medicine and to establish a State Health Fund for the Purpose of providing Certain Benefits for Contributors to Same in Case of Sickness, Accident and Death was heard before the Committee on State Administration, January 12. Action of the Committee has not been reported. The text of the bill is as follows:

SECTION 1. Section four of chapter seventeen of the General Laws is hereby amended by inserting after the word "division" in the first and in the fifth lines, in each instance, the words:—of preventive medicine and—and by adding at the end thereof the following new sentence:—The compensation of the director of the division of preventive medicine shall be payable from the state health fund provided for by section two of chapter one hundred and eleven A,—so as to read as follows:—*Section 4.* There shall be in the department a division of preventive medicine and of sanatoria and such other divisions as the commissioner may, with the approval of the public health council, from time to time determine. The commissioner may, subject to the approval of the governor and council, appoint and remove a director of the division of preventive medicine and of sanatoria, and, subject to the approval of the public health council, shall appoint and may remove a director to take charge of every other division, and shall prescribe the duties of such other divisions. The compensation of directors of all divisions shall be fixed by the commissioner, subject to the approval of the governor and council. The compensation of the director of the division of preventive medicine shall be payable from the state health fund provided for by section two of chapter one hundred and eleven A.

SECTION 2. Section six of said chapter seventeen is hereby amended by inserting after the word "inspectors" in the third and fourth lines the word:—, sanitarians,—and by adding at the end thereof the following:—Sanitarians for each health district provided for by section four of chapter one hundred and eleven shall be appointed from among persons registered under chapter one hundred and twelve who reside and practice in said district. They may be employed on full or part time as needed and their compensation and that of the other employees of the division of preventive medicine shall be payable from the state health fund provided for by section two of chapter one hundred and eleven A,—so as to read as follows:—*Section 6.* The commissioner may, with the approval of the public health council, appoint and remove assistant directors of divisions and epidemiologists, who shall be exempt from chapter thirty-one, inspectors, sanitarians and other necessary employees, and may fix their compensation. Sanitarians for each health district provided for by section four of chapter one hundred and eleven shall be appointed from among persons registered under chapter one hundred and twelve who reside and practice in said district. They may be employed on full or part time as needed and their compensation and that of the other employees of the division of preventive medicine shall be payable from the state health fund provided for by section two of chapter one hundred and eleven A.

SECTION 3. Chapter eighteen of the General Laws is hereby amended by inserting after section five the following new section:—

Section 5A. There shall be in the department a state health fund board consisting of the commissioner of public welfare, who shall be its chairman, and two other members who shall be appointed for terms of five years each by the governor with the advice and consent of the council and shall receive such salaries as the governor and council may determine. Said board shall administer the state health fund provided for by section two of chapter one hundred and eleven A. It shall investigate the claims for compensation under said chapter one hundred and eleven A, determine the amounts of such compensation and order the payment of the same from the fund. It shall approve and order the payment of such bills as are submitted to it by the director of the division of preventive medicine for professional services and other expenses, including drugs, incurred under said chapter one hundred and eleven A. The state treasurer shall be the custodian of said fund and shall disburse the same in accordance with the directions of said board.

SECTION 4. The General Laws are hereby amended by inserting after chapter one hundred and eleven the following new chapter, to be numbered one hundred and eleven A and to be entitled "State Health Insurance":—

CHAPTER 111A.

STATE HEALTH INSURANCE

Section 1. The commissioner of public health shall from time to time make rules and regulations to carry out the provisions of this chapter and for the purposes hereof the health districts provided for in

section four of chapter one hundred and eleven shall be used.

Section 2. There is hereby established a state health fund and the money needed for the same shall be obtained in the following manner:—

(a) Employers of labor of any kind or description in the commonwealth shall contribute a sum equal to three per cent. of their weekly, monthly or annual pay rolls covering all wages and salaries paid by such employers;

(b) Residents of the commonwealth whose employers are contributing as provided under paragraph *(a)* shall, if they desire to become entitled to the benefits provided for by this chapter, pay a yearly contribution equal to one week's wages or salary or, if their wages or salary is payable weekly, then a weekly contribution equal to two per cent. thereof;

(c) Residents of the commonwealth who desire to become entitled to the benefits provided for by this chapter and who are not employed on a wage or salary basis shall pay a yearly contribution to the state fund equal to five per cent. of their yearly income from all sources;

(d) Any additional amounts needed for carrying out the provisions of this chapter shall be paid from the state treasury into said fund.

Section 3. For the purposes of this chapter the word "contributors" shall mean residents who have contributed to the state fund under paragraphs *(b)* and *(c)* of the preceding section for a period of not less than three consecutive months.

Section 4. For the purpose of creating and maintaining a condition of perfect health among the contributors, they and their dependents shall submit to physical and other examinations at regular intervals as the sanitarian of their district may order in accordance with rules and regulations established by the department of public health.

Section 5. Sanitarians shall examine, physically, mentally, and in other ways known to science, contributors and their dependents residing within their districts for the purpose of preventing or remedying infirmity, disease and sickness of any kind to the human body; they shall render assistance to contributors and their dependents in all cases of infirmity, disease, childbirth and accident when called upon to do so, to the extent and in the manner as their knowledge of a particular branch of the science of human health has made them proficient; and, they shall refer such cases in the handling of which they are not proficient to a sanitarian who is, or to an institution or hospital provided for the treatment of such cases. Sanitarians shall co-operate with a view to the establishment of perfect health among the contributors residing within their districts, by preventive measures rather than cure.

Sanitarians shall report their transactions to the director of the division of preventive medicine whose duty it shall be to supervise and promote the work of the sanitarians in accordance with rules and regulations established by the commissioner of public health.

Section 6. Contributors shall be entitled to the following benefits hereunder, for themselves and wholly and partly dependent members of their families and households, to wit:—

(a) Periodic physical examinations; medical and surgical consultations, treatment, operations, including nurse when necessary; hospital and clinical care and treatment, including transportation to and from same if necessary; drugs and medical and surgical supplies, including artificial limbs and appliances.

(b) When sickness or incapacity extends beyond seven days and is accompanied by the loss of income or earnings, or if the patient be a woman by the loss of her services in the home, contributors shall be entitled to receive compensation from the fund, for a period not exceeding twenty-six weeks in any one calendar year, counting from the first day of such sickness or incapacity, as follows:—

While the loss of income, earnings or services is total, a weekly compensation equal to two thirds of the patient's customary weekly income, earnings or value of services before the sickness or accident, but not more than sixteen dollars nor less than seven dollars a week.

While the loss of income, earnings or services is partial, a weekly compensation equal to two thirds of the difference between the patient's weekly income, earnings or value of services before and after the sickness or accident, but not more than sixteen dollars a week.

If the patient be a woman whose services, while not paid for in cash, are nevertheless indispensable in the home of a contributor, her services shall be valued at one thousand dollars per year and her compensation for sickness or accident shall be computed on that basis.

Provided, however, that none other than contributors with families or relatives dependent upon his or her income, earnings or services, shall be entitled to compensation hereunder while the contributor is in a hospital where full maintenance is furnished.

(c) In case of the death of a contributor, his wife, or a dependent member of his family or household, the fund shall pay the reasonable expenses of burial, not exceeding one hundred and fifty dollars.

Temporary non-payment of contributions to the state health fund shall not jeopardize contributors' rights to benefit under this chapter; provided, that such temporary non-payment is due to sickness or involuntary unemployment.

Section 7. If a contributor be entitled to compensation or medical or surgical care and treatment under any federal law or under any law of this state or of any other state, territory, or district of the United States, or of any foreign country or subdivision thereof, he shall not be entitled to compensation, medical and surgical care or treatment under this chapter for the same disability.

SECTION 5. Subject to appropriation, the department of public health may incur preliminary expenses for the purpose of acquainting the residents of the commonwealth with the provisions of this act and establishing the necessary organization hereunder; provided, that such expenses shall not exceed a sum equal to twenty-five cents for each inhabitant of the commonwealth.

House 165. Recommendations (accompanied by a bill) of the Board of Registration in Pharmacy relative to the educational qualifications of applicants for registration in pharmacy and increasing the fees for the examination of applicants.

House 273. An Act restricting the Administering of Habit Forming Drugs to Patients in Institutions for the Insane was heard before the Public Health Committee on January 16. Action of the Committee has not been reported.

Senate 35. An Act making Settlement within the County a Condition of the Admission of Patients to the Essex County Tuberculosis Hospital is scheduled for a hearing but the exact date has not yet been announced.

DRIVE AT DR. FRANCIS X. MAHONEY

A petition has been filed by John H. Logue and other undertakers providing that in January, 1919, the Governor rather than the Mayor shall appoint the health commissioner of Boston.

MISCELLANY

SMALLPOX IN AMERICAN STATES AND CANADIAN PROVINCES, FIRST SIX MONTHS OF 1927

For the first six months of 1927, more cases of smallpox were reported in 39 States, the District of Columbia and five Canadian Provinces than in the same period of 1926. There were fewer deaths, however, thereby producing a much lower case fatality rate in 1927 (0.5 deaths per 100 cases) than in 1926 (1.5 deaths per 100 cases). During the first six months of 1925, the figure was 2.2. In the United States alone, the case-fatality rates were also 0.5 for the first half of 1927 and 1.5 for the same period of 1926. The five Canadian Provinces reported an increase in cases and in deaths. The case-fatality rate rose as well, from 1.0 in 1926 to 1.2 in 1927.

The following table shows the smallpox experience in the United States and Canada during the first half of 1925, 1926 and 1927.

Smallpox in 1927 was less severe than in the two previous years. The case-fatality rates were much less striking. The highest figure among the States was 1.11 deaths per 100 cases for North Carolina, and among the Canadian Provinces, 1.98 for Alberta. Last year Arizona, which headed the list with a rate of 37.50, dropped to zero in 1927. California's rates were 9.50 and 0.68 respectively. The figure for Alberta in 1926 was 3.03. Indiana reported the largest number of cases in 1927, 3,748, followed by Texas with 2,059 cases. Only 11 deaths occurred in Indiana, but 21 deaths in Texas caused this State to rank third with a fatality rate of 1.01—*Bulletin of the Metropolitan Life Insurance Company.*

Smallpox Cases, Deaths and Case-Fatality Rates, First Six Months of Each Year 1925-1927. For 39 States, District of Columbia and 5 Canadian Provinces.

AREA	1927			1926			1925		
	Cases	Deaths	Deaths per 100 Cases	Cases	Deaths	Deaths per 100 Cases	Cases	Deaths	Deaths per 100 Cases
U. S. and Canada	20,201	103	0.5	19,311	297	1.5	28,634	619	2.2
U. S. (39 States and D. C.)	19,602	96	0.5	19,014	294	1.5	27,916	618	2.2
5 Canadian Provinces	599	7	1.2	297	3	1.0	718	1	0.1

WEEKLY HEALTH INDEX

Telegraphic returns from 69 cities with a total population of thirty million for the week ending December 24 indicate a mortality rate of 12.9 as against 12.7 for the corresponding week of last year. The highest rate (23.3) appears for Memphis, Tenn., and the lowest (5.6) for Somerville, Mass. The highest infant mortality rate (161) appears for Yonkers, N. Y., and the lowest for Portland, Oregon; Spokane, Washington and Wilmington, Delaware, which reported no infant mortality.

The annual rate for 68 cities is 12.3 for the fifty-one weeks of 1927, as against a rate of 13.2 for the corresponding weeks of 1926.

Deaths* (still-births excluded) reported during the week ending December 24, 1927, with death rates in large cities of New England:

City	Week ending Dec. 24, 1927				Infant mortality rate for the year 1926[c]	Corresponding week, 1926		
	Total deaths	Death rate[a]	Deaths under 1 year	Infant mortality rate[b]		Total deaths	Death rate[a]	Deaths under 1 year
Boston	203	13.3	20	56	84	258	17.1	28
Bridgeport	38		2	34	73	42		1
Cambridge	34	14.3	2	36	68	26	11.1	3
Fall River[e]	19	7.5	3	51	91	37	14.7	1
Lowell	23	10.9	2	42	89	24	11.3	3
Lynn	27	13.4	2	55	66	20	10.0	1
New Bedford	37	16.1	2	38	102	28	12.2	2
New Haven	43	12.1	5	70	54	46	13.2	0
Providence	74	13.8	5	43	69	61	11.6	6
Somerville	11	5.6	1	29	61	29	15.1	2
Springfield	32	11.3	7	111	69	37	13.3	3
Worcester	50	13.3	2	24	75	46	12.4	4

*Deaths of nonresidents are included.
a These rates represent annual rates per 1,000 population, as estimated for 1926 and 1927, by the arithmetical method.
b Deaths under 1 year of age per 1,000 births.
c Cities left blank are not in the registration area for births.
e Deaths for week ending Friday, December 23, 1927.

RESUME OF COMMUNICABLE DISEASES IN MASSACHUSETTS

DECEMBER, 1927

GENERAL PREVALENCE

The total reported incidence of communicable diseases for December was not unusual.

Less than half as many cases of poliomyelitis were reported in December as in November. Although the reported incidence for December was the highest of any December on record, not excepting 1916, the incidence is rapidly returning to normal limits.

The measles incidence has been increasing relatively to the expectancy for several months, and at the present time the reported incidence is moderately high as compared to the usual December figure.

The number of cases of chickenpox, diphtheria, German measles, influenza, lobar pneumonia, mumps, scarlet fever, tuberculosis and whooping cough reported indicates that these diseases were present within endemic limits.

Fewer cases of typhoid fever were reported in December of this year than in any previous December in the history of the Department.

RARE DISEASES

Anterior poliomyelitis was reported from Ashland, 1; Ayer, 1; Boston, 11; Brookline, 1; Cambridge, 3; Chelsea, 2; Dedham, 1; Dighton, 1; Easthampton, 1; Everett, 1; Fall River, 4; Fitchburg, 2; Franklin, 1; Gardner, 1; Gloucester, 1; Groveland, 2; Haverhill, 2; Hudson, 1; Ipswich, 1; Lynn, 1; Maynard, 1; Milford, 2; Millbury, 1; New Bedford, 1; Newburyport, 2; Newton, 2; North Adams, 1; Northbridge, 1; Northfield, 1; Norwood, 1; Oak Bluffs, 1; Peabody, 1; Randolph, 1; Salem, 1; Saugus, 1; Somerville, 2; Taunton, 1; Watertown, 1; Wayland, 1; Weymouth, 1; Woburn, 1; Worcester, 1; total, 65.

Dog-bite requiring anti-rabic treatment was reported from Boston, 18; Braintree, 1; Brookline, 5; Cambridge, 2; Everett, 1; Holyoke, 1; Lowell, 10; Medford, 2; Milton, 6; Northbridge, 4; Quincy, 1; Weston, 1; total, 52.

Dysentery was reported from Boston, 1; total, 1.

Encephalitis lethargica was reported from Arlington, 1; Lynn, 1; total, 2.

Epidemic cerebrospinal meningitis was reported from Auburn, 1; Boston, 2; Burlington, 1; Holyoke, 1; Lowell, 1; Lynn, 1; Southampton, 1; total, 8.

Malaria was reported from Boston, 1; Salem, 1; total, 2.

Septic sore throat was reported from Boston, 6; Fall River, 2; Framingham, 1; total, 9.

Smallpox was reported from Pittsfield, 1; total, 1.

Trachoma was reported from Boston, 1; total, 1.

MONTHLY REPORT OF CERTAIN COMMUNICABLE DISEASES.

DISEASE	Cases in Entire Population				Case Rates per 100,000 Pop.		
	Dec. 1927	Dec. 1926	Prosodemic Index	Epidemic Index	Dec. 1927	Dec. 1926	Expected Rate ***
ALL CAUSES	8,508	7,316	-	-	199.3	173.6	-
Ant. Poliomyelitis	65	8	14*	4.6**	1.5	.2	.3
Diphtheria	590	505	609*	1.0**	13.8	12.0	14.3
Measles	2,552	358	1,507*	1.7**	59.8	8.5	35.3
Pneumonia, Lobar	471	410	429*	1.1**	11.0	9.7	10.0
Scarlet Fever	1,217	1,539	1,168*	1.0**	28.5	36.5	27.4
Tuberculosis, Pul.	326	394	299*	1.1**	7.6	9.4	7.0
Typhoid Fever	25	95	24*	1.0**	.6	2.3	.6
Whooping Cough	755	604	782*	1.0**	17.7	14.3	18.3
Chickenpox	1,045	1,718	-	-	24.5	40.8	-
German Measles	61	46	-	-	1.4	1.1	-
Influenza	42	57	-	-	1.0	1.4	-
Mumps	590	810	-	-	13.8	19.2	-
Tuberculosis, O. F.	60	66	-	-	1.4	1.6	-

* This Index is an attempt to estimate the number of cases based on the trend during the past years which can be expected to occur, and is for the purpose of comparison with the number of cases which actually did occur.

** This ratio expresses how prevalent the disease is compared with the index mentioned above; 1.0 indicates that the actual number of cases equals the expected number. A larger number means a greater prevalence, and a smaller number a lesser prevalence than expected. Thus, 2.0 would indicate twice the expected number of cases, and .5 half the expected number of cases. The method used to determine the indices is described in the August 18, 1927, issue of the BOSTON MEDICAL AND SURGICAL JOURNAL.

*** Calculated from the Prosodemic Index.

FREE CHOICE OF DOCTOR UNDER THE ENGLISH LAW

When the National Insurance Act was under discussion the entire medical profession of this country demanded that panel patients should have a free choice of doctor. This demand was not granted at first, but after the lapse of a number of years its wisdom was recognized. Changes in the regulations governing the administration of the Insurance Acts were made, and every insured person became entitled to call in the panel doctor of his or her choice. As a consequence of negotiations between the Ministry of Health and the Insurance Acts Committee of the British Medical Association this right has now been made subject to certain important restrictions. The panel patient is still at liberty to change his doctor, but he can do this at once only if he obtains the consent of the doctor whom he is leaving and of the doctor to whom he is going. If consent is withheld the patient must send his medical card to the Insurance Committee with a letter stating his intention. After the lapse of a fortnight his desire will be carried into effect. These restrictions, by general consent, will greatly reduce the number of "transferences," that is to say, they will reduce the free choice of doctor which in their absence would have been exercised. It may well be asked what advantages are likely to be gained by thus curtailing a right which the public has hitherto enjoyed. Various reasons in defence of the new regulations have been put forward from time to time, but none of them seems to be adequate; and the inference would appear to be unavoidable that the real reason for the new restrictions is the desire of the approved societies that restrictions should be imposed. No doubt the societies have good ground for the demand which they have made. They have not, however, disclosed this

ground further than to indulge in vague charges against the medical profession. The position at present is indeed exceedingly unsatisfactory. A patient naturally and properly wishes to be attended by a doctor who adopts towards him a sympathetic attitude. But few patients are willing to tell a doctor to his face that his attendance is unsatisfactory. Rather than take this course, or, alternatively, write a letter to the local Insurance Committee, most people will endure whatever distress unsatisfactory medical attendance may cause them. The question for the public is whether the demand of the approved societies ought to stand against the demands of the insured population, of which the approved societies, the panel doctors, and the Ministry of Health are the servants. There is need of public enlightenment on this matter.—*London Times.*

LEAD POISONING CAUSED BY SNUFF

One of the medical staff of Mount Sinai Hospital recently called the attention of the Department of Health to a male patient who, upon examination, presented a marked polyneuritic condition that was suggestive of poisoning by one of the heavy metals. Lead was suspected, and the only possible etiological factor in this case was thought to be snuff, which the patient habitually used. The patient's stool contained lead, and an examination of the specimen of the snuff used by the patient in the chemical laboratory of the Department of Health showed lead present.

Investigation by the Bureau of Food and Drugs, at the plant where the snuff used by this patient was manufactured, proved conclusively that the lead content of the snuff was due to the use of a yellow and green coloring material. When the analysis of the chemical laboratory indicated the source of the lead content, an embargo was placed on all coloring materials in the plant, and the manufacturer was ordered to discontinue the use of all coloring matter at once. Prosecution proceedings have been instituted against the manufacturer.

This is not the first time that snuff has been adulterated by the use of lead pigments for coloring purposes or to give it weight. The case in point has clinical interest also, and shows how alert one must be in seeking the cause of poisoning.—*Weekly Bulletin, City of New York Department of Health.*

OBITUARIES

JAMES HOMER WRIGHT, M.D.

Death has claimed Dr. J. Homer Wright, long time pathologist to the Massachusetts General Hospital and assistant professor of pathology at Harvard Medical School since 1906. After a few days' illness with pneumonia he died at the Phillips House of the hospital, January 3, 1928.

The son of Homer and Sarah L. Gray Wright, he was born at Pittsburgh, Pa., April 8, 1869. Following study in the local schools he entered Johns Hopkins University and received an A.B. in 1890, two years later taking his M.D. at the University of Maryland School of Medicine. In 1894 Harvard conferred the honorary S.D. upon him and in 1907 the University of Maryland the same degree. Dr. Wright was Thomas A. Scott Fellow in Hygiene while at the University of Maryland. After settling in Boston (in 1896) he was appointed instructor in pathology at Harvard, holding the position until he was made assistant professor in 1906, and being also, from the first date, director of the pathological laboratory at the Massachusetts General Hospital. In 1897 he issued with Dr. F. B. Mallory "Pathological Technique", a book which has gone through eight editions. He identified the parasite of Aleppo Boil as a protozoon. He was awarded the Gross prize of $1200 for his essay on "The Biology of the Micro-organism of Actinomycosis." The prize was instituted by the late Dr. Samuel D. Gross, the conditions being that the grant be made every five years "to the writer of the best original essay not exceeding 150 printed pages, octavo in length, illustrative of some subject in surgical pathology of surgical practice, founded upon original investigations, the candidates for the prize to be American citizens.

As pathologist in charge of the Diagnostic Service of the Cancer Commission of Harvard University after 1917, he did a large amount of work in making free examinations of suspected specimens of tissue sent in for an opinion.

He was a member of the Association of American Physicians, the Alpha Delta Phi, the Phi Beta Kappa and the Massachusetts Medical Society.

On December 25, 1901, Dr. Wright married Aagot Lunde of Boston, who was a widely known Norwegian singer. She died a few years ago, and since then Dr. Wright had lived very much to himself. He is survived by a brother, Howard Wright, and a sister, Miss Mary Wright, both living in Pittsburgh.

EDWARD BURNSIDE SIMMONS, M.D.

Word has been received of the death at Worcester of Dr. Edward Burnside Simmons, January 7, 1928, after a long illness, thought to be due to severe gassing in the World War, where he was regimental surgeon in the 365th Infantry, 92nd Division.

Born in Worcester in 1882, he was the son of Rev. Charles Edward and J. Victoria Waldron Simmons. He was educated in the Worcester High School and at Colgate University, where he received the degree of S.B. in 1906. Later he took the S.M. degree and studied at the Hamilton Training School for medical missionary work. There he became a Bachelor of Divinity. In 1913 he took the degree of M.D. at the College of Physicians and Surgeons, Columbia, and was appointed physician to the Norton Company in Worcester, at the same time serving the First Baptist Church as acting pastor. On May 30, 1917, Dr. Simmons entered the military service of the country and was sent to Fort Benjamin Harrison and in August of 1917 was commissioned a captain, later going to Camp Funston in Kansas, where in December he was commissioned a major. He was sent overseas in June, 1918, and was regimental surgeon of the 365th Infantry, 92nd Division, and commander of the ambulance corps of the division. For bravery in action, November 10 and 11, near Pont-a-Mousson, France, he headed a list of citations.

He returned from France in January of 1919, suffering from the effects of severe gassing, and resumed the practice of medicine. For a short period he served the Jamesville Baptist Church as pastor and in 1920 was elected physician for the Naborly House.

He had recently returned from a sanitarium in the Adirondacks. At the time of his death he was a member of the surgical staff of the Worcester City Hospital.

He leaves his wife, Ruth (Ingalls), a son, Ingalls Howe Simmons, and two sisters, one of them, Dr. Hannah C. Simmons of Worcester, also a member of the Massachusetts Medical Society.

He was a member of General Devens Post, American Legion; past commander of Willie Grout Camp, Sons of Union Veterans of the Civil War; a member of Hamilton Lodge, A. F. and A. M., of New York; of Aletheia Grotto, M. O. V. P. E. R; the Massachusetts Medical Society and of the Worcester Grange.

CORRESPONDENCE

STATUTE REGARDING THE LICENSING OF CLINICS

The Commonwealth of Massachusetts
Department of Public Health
State House, Boston, January 12, 1928.

To the Editor,

BOSTON MEDICAL AND SURGICAL JOURNAL,

Dear Sir:

The Department of Public Health is making an increased effort to enforce the statute regarding the licensing of clinics and would be glad of the privilege of your columns to inform the profession in this matter. Section 53 of Chapter 111, General Laws, states that the Department shall annually license all establishments whether run for profit or charity under the name of "'dispensary' or 'clinic', or other designation of like import". This is, of course, very inclusive. The only exception (there must always be an exception) is, according to an informal opinion from the Attorney General's office, municipally run clinics since these are specifically authorized by Section 50 of Chapter 111 of the General Laws.

Last summer the Department surveyed the clinic situation over the State and found a most confusing diversity. As a result the Department recently revised the regulations in regard to this matter. I think it will be quite generally agreed that these are minimal and that no clinic could be run on very much less.

They appeared on page 1153, issue of December 15 of THE BOSTON MEDICAL AND SURGICAL JOURNAL under a previous letter of the Commissioner.

The license fee is five dollars, except for incorporated charities when the fee is waived.

We are sending form applications to all clinics of which we know, and this is followed by an inspection by one of our District Health Officers. In an effort toward the excessively difficult problem of estimating the quality of service rendered we have prepared a very rough score sheet, a copy of which is attached. Obviously this is objective rather than subjective and reaches the shell rather than the meat, but I think your readers will see what we are striving after. For the present the score will have no influence on whether or not a given clinic receives a license but it will give us some interesting information. We would welcome comment on it.

Yours truly,

GEORGE H. BIGELOW, M.D.,
Commissioner of Public Health.

(For use of District Health Officers)

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF PUBLIC HEALTH

Temporary Clinic Appraisal Form for Study Purposes

Clinic ..... Score ..... (Perfect Score, 100)

		Value of Item	Score
1.	*Method of Filing Patient's Record:* (25)		
a.	If alphabetically and by number allow	25	.....
b.	If alphabetically only allow	20	.....
c.	If chronologically by number allow	15	.....
d.	If chronologically only	10	.....
e.	If no system allow ("d" is minimum qualification)	0	.....
2.	*Follow-up:* (25)		
a.	If social service worker is in attendance throughout clinic hours allow	15	.....
b.	If home visits are made by social service worker (to at least 3 per cent. of cases) allow	5	.....
c.	If there is systematic follow-up work by mail allow	5	.....
3.	*Discharge Note on Clinic Records:* (25) Inspect 100 consecutive records. Score proportionately percentage of case records which have a definite statement as to reason for the case being closed.*		.....
4.	*X-Ray Plates:* (25) If 50 per cent. or more of 25 plates on suspected fractures are negative, perfect score is allowed. Score other proportionately.		.....
	Total Score		

*Patient may be discharged by death, recovery, inability to help patient or to give further help, discharged for a given period, transferred to hospital for operation, etc., lapsed case.

NEWS ITEMS

MRS. FRANCES W. EVERBERG OF WOBURN HAS BEEN APPOINTED TO THE POSITION OF CHAIRMAN OF THE MUNICIPAL BOARD OF HEALTH OF WOBURN—Mrs. Everberg was sworn in by Mayor Johnson and is taking up the work of this position. Mrs. Everberg is the wife of former Representative Gustave W. Everberg, with whom she was serving in the World War with the Massachusetts General Hospital, Unit 6. She is a graduate of the training school for nurses at the Massachusetts General Hospital. During one influenza epidemic she spent three weeks at the Choate Memorial Hospital as a volunteer, and has served the Red Cross and the baby clinics held under the auspices of the Board of Health. Her appointment is to fill the vacancy created by the resignation of Anthony Lux, former chairman of the Board of Health.

A CHANGE IN THE REQUIREMENTS OF THE NEW YORK HEALTH BOARD RESPECTING THE PASTEURIZATION OF MILK—The regulations governing the pasteurization of milk under the New York City Board of Health have been amended by reducing the number of bacteria which milk is permitted to contain by half. The new rules will become effective July 1. Under these regulations the bacteria standards for Grade B milk will be almost the same as for Grade A.

A TWO HUNDRED FIFTY BED HOSPITAL FOR CONNECTICUT—A Congressional drive for a new two hundred fifty bed government hospital for mental cases has been started by representatives of Connecticut under the leadership of E. L. White, former Connecticut State commander of the American Legion, and Anson T. McCook of Hartford. It is claimed that Connecticut is the logical site of the treatment of veterans in Rhode Island, Connecticut, Vermont and parts of Massachusetts.

THE APPOINTMENT OF ROLAND L. McKAY—Governor Brewster of Maine has appointed Dr. Roland L. McKay of Augusta as medical examiner for

Kennebec County. Dr. McKay succeeds Dr. Warren B. Sanborn, who resigned because of his recent appointment as superintendent of the Augusta State Hospital.

A QUESTION FOR MENTAL HYGIENISTS—California has a peculiar law affecting its care of boys who have required correctional treatment. In an institution for reform in that State the law obliges the authorities to release all boys at eighteen years of age. Several instances have shown the danger of this custom. In one case, very soon after having been released, a boy killed a woman. The same institution is about to release another boy considered equally dangerous, but under the law there is nothing to do but let him go and see what he will do next.

HARRIS, COMMISSIONER OF HEALTH OF NEW YORK CITY, ADVOCATES OPEN HOSPITALS—At the round table conference of the New York sectional meeting of the American College of Surgeons held recently, among other recommendations Dr. Harris, Commissioner of Health for New York City, advocated the adoption of open hospitals in which doctors could practice without discrimination. His argument was that physicians would according to this plan secure education and experience and serve the community to better advantage. Commissioner of Public Welfare Bird S. Coler, however, took the opposite view and recommended closed hospitals, but did advocate post-graduate work for young doctors under supervision. Dr. Boris Fingerhood of the Israel Zion Hospital and Louis J. Frank of Beth Israel Hospital recommended a combination of closed and open hospitals.

SCHOOL HYGIENE FOR GIRLS—Dr. Henry D. Chadwick, superintendent of the State sanitarium at Westfield, recently addressed the school hygiene conference comprising one hundred fifty educators and school officials.

In his address he warned school girls that too rigid dieting would undermine their health and that less attention should be paid to their appearance than to their breakfast. He said that girls have less resistance to disease between the ages of twelve and twenty years than boys.

REPORT ON BIRTH CONTROL—At a recent meeting of the American Birth Control League with more than three hundred members in attendance in New York City the usual arguments for the adoption of so-called birth control were advanced. Dr. James F. Cooper, medical director of the league, reported that the House of Delegates of the American Medical Association will consider for ratification a resolution proposing an amendment of laws permitting physicians legally to give advice in birth control. The resolution he said was adopted in 1925 by the section on obstetrics, gynecology and abdominal surgery of the association.

CHANGES IN THE COMMITTEE OF PUBLIC HEALTH OF THE STATE LEGISLATURE—Senator Daggett of Somerville has been transferred from metropolitan affairs to public health.

Senator Bliss of Malden has been taken from the public health committee to serve on insurance.

Representative Stearns of Lowell has been assigned to the committee on public health.

Governor Fuller has submitted the name of Willard B. Sagur of Enfield, associate medical examiner, fourth Hampshire District, to the executive council for reappointment. The name of Elmer W. Babson of Gloucester, board of registration in veterinary medicine, has also been submitted for reappointment.

AN ANCIENT MEDICAL BOOK TO BE PUBLISHED—An Egyptian medical treatise of the 17th century before Christ is being made ready for publication at the University of Chicago. The book is called the Edwin Smith Papyrus and was translated by Professor James Henry Breasted, director of the Oriental Institute of the University of Chicago. The papyrus roll is fifteen feet long, with writing on both sides. In book form it will make a volume of some six hundred pages. This is reported to be the oldest nucleus of really scientific medical knowledge in the world.

BOSTON DOCTORS DELIVER ADDRESSES BEFORE THE NEW YORK ACADEMY OF MEDICINE—On Wednesday evening, January 18, Dr. Arthur L. Chute spoke before the Section of Genito-Urinary Surgery on "My Personal Experiences with Tumors of the Bladder".

On Monday evening, January 23, Dr. Harris P. Mosher will speak before the section of Laryngology and Rhinology on "The Diagnostic Barium Bougie and Lesions at the Lower End of the Esophagus".

On Friday afternoon, January 20, Dr. Fritz Bradley Talbot will speak on "The Endocrine Disturbances of Childhood".

DR. ANSTIS P. D. MANTON announces the opening of her office at 111 Davis Avenue, Brookline.

DR. MATHEWS RETURNS TO HIS OFFICE IN WORCESTER—Dr. Robert F. Mathews has returned from study in clinics in Budapest, Hungary.

SMALLPOX—A moderate sized epidemic of smallpox is under way in Connecticut affecting the towns in Middlesex County. The latest reports show that there have been twenty-seven cases. In Easthampton, schools, churches and a theatre have been ordered closed for a week. Suspected contacts have been isolated and vaccination is being generally employed.

The U. S. P. H. reports show that smallpox is increasing throughout the country and is more prevalent in rural communities. It is reported that the cases are of mild type.

In this connection a renewed warning against the use of vaccination shields has been issued by the United States Public Health Service and reference to the accepted technique of vaccination can be found in an article (Vaccination Against Smallpox) by Dr. Benjamin White in Vol. 193, No. 5, page 210, of this JOURNAL.

PROCEEDINGS OF THE BOARD OF REGISTRATION—At a meeting of the Board held December 29th, the following action was taken:

Registration of Dr. Andreas F. Christian was revoked; registration of Dr. Wallace P. MacCallum was revoked. In the case of Dr. Luke M. Holmes, whose registration was suspended on December 8, the time of suspension was fixed for three months from date of Dec. 8, 1927. The case of Dr. Harry J. Hagerty of Worcester, was placed on file with instructions to the Secretary to write him a letter, censuring him for his neglect to make birth returns, and his failure to coöperate with the Department of Vital Statistics. The case of Dr. Freeman W. MacDonald was still further postponed.

NOTICES

The Obituary of Dr. Francis W. Peabody which appeared on page 1288 in our issue of January 5 was written by Dr. Hans Zinsser and first appeared in the December issue of the *Harvard Graduates' Magazine.*

RESOLUTIONS ENDORSING THE CONTROL OF TYPHOID CARRIERS

At the annual meeting of the New England Pediatric Society held December 23, 1927, the following recommendation of the Council was voted:

The New England Pediatric Society wishes to go on record as supporting the active campaign which has been carried on by the Health Commissioner, Dr. George H. Bigelow, with the view of securing legislative control of typhoid carriers. The epidemic of typhoid fever in Montreal and the small outbreak in Concord, Massachusetts, have been directly traced to such carriers.

We advise that the pediatrician and the general practitioner renew their efforts to bring to the attention of their patients the importance of protective measures against this dread disease.

This recommendation shall be recorded in the minutes of the meeting and published in its official organ.

THOMAS H. LANMAN, M.D., *Secretary.*

REPORTS AND NOTICES OF MEETINGS

TRUDEAU SOCIETY

At the annual meeting of the Trudeau Society of Boston, held January 3, 1928, the following were elected to office:

President—Dr. Frederick T. Lord.
Vice-President—Vincent Y. Bowditch.
Secretary and Treasurer—Dr. Randall Clifford.

The following new members were elected to the Council: Dr. George W. Holmes, Dr. Joseph H. Pratt, Dr. T. J. Murphy.

ANNUAL CONGRESS ON MEDICAL EDUCATION, MEDICAL LICENSURE AND HOSPITALS

This Congress is scheduled for February 6, 7 and 8, 1928, at the Palmer House, State and Monroe Streets, Chicago. The program follows:

PROGRAM

First Day, Monday, February 6, 1928

COUNCIL ON MEDICAL EDUCATION AND HOSPITALS

Morning Session, 9:30 O'clock

Opening of the Conference by the Chairman
Arthur Dean Beven, M.D., Professor of Surgery, Rush Medical College, Chicago.

Medical Education in Great Britain
Sir Norman Walker, M.D., Member, General Medical Council of Great Britain.

Discussion by
William S. Thayer, M.D., President-Elect of the American Medical Association, Baltimore.

An M.D. Degree Five Years After High School
Wilburt C. Davison, M.D., Dean, Duke University School of Medicine, Durham, N.C.

Afternoon Session, 2:00 O'clock

SYMPOSIUM: MEDICAL RESEARCH IN THE GOVERNMENTAL MEDICAL DEPARTMENTS

(a) In the Army Medical School
Lieut. Col. Joseph F. Siler, Surgeon General's Office, Washington, D. C.

(b) In the Navy Medical School
Admiral E. R. Stitt, Surgeon General, United States Navy.

(c) In the Hygienic Laboratory
Surg. Gen. Hugh S. Cumming, United States Public Health Service.

The Revision of the Standard Nomenclature of Diseases and Pathological Conditions, Injuries and Poisonings
William H. Davis, M.D., Chief Statistician for Vital Statistics, Department of Commerce, Washington, D. C.

Second Day, Tuesday, February 7, 1928

COUNCIL ON MEDICAL EDUCATION AND HOSPITALS

Morning Session, 9:30 O'clock

Modern Preceptorships: The Value of Associate Teaching Centers in Clinical Teaching
Charles R. Bardeen, M.D., Dean, University of Wisconsin Medical School, Madison.

Discussion by
Karl Doege, M.D., President-Elect, Wisconsin State Medical Society, Marshfield.

De-Departmentalizing of Clinical Teaching
J. S. Evans, M.D., Professor of Medicine, University of Wisconsin Medical School, Madison.

The Use of the Outpatient Department in Undergraduate Medical Instruction
Irving S. Cutter, M.D., Dean, Northwestern University Medical School, Chicago.

Investigative Work and Library Service in a Non-teaching Hospital
John E. Ransom, Superintendent, Toledo Hospital, Toledo, Ohio.

Afternoon Session, 2:00 O'clock

SYMPOSIUM: AUTOPSIES IN MEDICAL SCHOOLS AND HOSPITALS

(a) The Educational Value of Autopsies
Harvey H. Bemis, M.D., Professor of Physical Diagnosis, Detroit College of Medicine and Surgery.

(b) The Relationship Between the Medical Staff and the Hospital Administration in the Use of Autopsies
Christopher G. Parnall, M.D., Medical Director, Rochester General Hospital, Rochester, N. Y.

(c) The Obtaining of Autopsies
Elexius T. Bell, M.D., Professor of Pathology, University of Minnesota Medical School, Minneapolis.

(d) Minimum Procedure Justly Referred to as an Autopsy
Frederick C. Smith, M.D., Marion, Ohio.

Discussion by
Dr. Howard T. Karsner, Chairman, Division of Medical Sciences, National Research Council, Washington, D. C.

Third Day, Wednesday, February 8, 1928

FEDERATION OF STATE MEDICAL BOARDS

Morning Session, 9:30 O'clock

Revision of Medical School Regulations as Related to Licensure
Fred C. Zapffe, M.D., Secretary, Association of American Medical Colleges, Chicago.

Operation of Medical Licensure and Registration in Great Britain

Sir Norman Walker, M.D., Member, General Medical Council of Great Britain.

Present Tendencies of Medical Practice

Herman G. Weiskotten, M.D., Dean, Syracuse University College of Medicine, Syracuse.

Duplication or Differentiation in Medical Supervision

Harold Rypins, M.D., Secretary, Board of Medical Examiners of the State of New York, Albany.

Afternoon Session, 2:00 O'clock

Importance of Uniform Blanks

C. R. Compton, Chairman, Committee on Uniform Blanks, American Association of Collegiate Registrars, Wooster, Ohio.

Symposium: Basic Science Laws

(a) Charles B. Kelley, M.D., Secretary, New Jersey Board of Medical Examiners, Trenton.

(b) Royal C. Rodecker, M.D., President, Wisconsin Board of Medical Examiners, Holcombe.

(c) A. E. Comstock, M.D., Secretary, Minnesota Board of Medical Examiners, St. Paul.

Symposium: Annual Registration as an Enforcement Procedure

(a) Guy L. Connor, M.D., Secretary, Michigan Board of Registration in Medicine, Detroit.

(b) A. T. McCormack, M.D., Secretary, Kentucky State Board of Health, Louisville.

Symposium: Budget Problem of Medical Examining and Licensing Boards

(a) Roy B. Harrison, M.D., Secretary, Louisiana Board of Medical Examiners, New Orleans.

(b) Charles B. Pinkham, M.D., Secretary, California Board of Medical Examiners, Sacramento.

(c) T. J. Crowe, M.D., Secretary, Texas Board of Medical Examiners, Dallas.

NEW ENGLAND WOMEN'S MEDICAL SOCIETY

The New England Women's Medical Society holds its annual dinner on Thursday, January 19, 1928, at the Hotel Vendome at six forty-five o'clock. This meeting is the fiftieth anniversary celebration. The speakers are Dr. Emily P. Howard, Dr. Marion Nute, Dr. Sarah E. Palmer and Dr. Addison S. Boyce, executive chairman of the New York Gotham Hospital. Mr. William Wilson of the "Scottish Musical Comedy Co." is scheduled to entertain.

HARVARD MEDICAL SOCIETY

The next regular meeting of the Harvard Medical Society will be held as usual in the amphitheatre of the Peter Bent Brigham Hospital, Tuesday evening, January 24th, at 8:15 P. M. The program follows:

Presentation of cases.

1. Effect of pituitrin applied intranasally in patients with diabetes insipidus.

2. Velocity of blood flow in circulatory failure, in anaemia and in pulmonary emphysema. Dr. Herman Blumgart.

PERCIVAL BAILEY, *Secretary.*

MASSACHUSETTS ASSOCIATION OF BOARDS OF HEALTH

This association has planned its annual meeting and luncheon for Thursday, January 26, at 12:30 P. M., at the Hotel Bellevue, Beacon Street, Boston.

PROGRAM

The responsibility for the care and treatment of tuberculosis by the Commonwealth and by the town, city, and county, with the attendant difficulties of settlement, subsidy, and responsibility, is a subject of much concern to those entrusted with this work, besides being confusing as to charges and cost.

PAPERS

"Present Resources for Handling Tuberculosis in Massachusetts," by Dr. George H. Bigelow, Commissioner of Public Health of Massachusetts.

"Local Care and Responsibility of Tuberculosis," by Dr. George T. O'Donnell, Director, Division of Tuberculosis, Boston Health Department.

"Settlement Laws and Their Application to Tuberculosis," by William H. Hardy, formerly Secretary, Department of Public Welfare, City of Boston.

BOSTON MEDICAL HISTORY CLUB

A meeting will be held on Friday, January 27, 1928, at the Boston Medical Library, at 8:15 P. M.

PROGRAM

1. Art Reference Libraries and Medicine. Mr. Alfred Ela.
2. The Struggle Against Latin in the 16th Century. Dr. Edward C. Streeter.
3. The Early Jewish Physicians in America. Dr. Hyman Morrison.

HENRY R. VIETS, *Secretary.*

NEW ENGLAND HEART ASSOCIATION

This association will meet on February 6, 1928, at 8 P. M., in John Ware Hall of the Boston Medical Library, 8 The Fenway, Boston, Mass. The meeting will be combined with the Annual Meeting of the American Heart Association.

PROGRAM

1. Effects of Accidents on Cardiac Employees. Dr. W. Irving Clark, Worcester, Mass.
2. Accidents and Heart Disease from the Insurance Company's Point of View. Gay Gleason, Esq., Boston, Mass.
3. Accidents and Heart Disease from the Court's Point of View. Commissioner Frank J. Donahue, Industrial Accident Board, Commonwealth of Massachusetts.

The discussion is to be opened by Dr. George Burgess Magrath, Medical Examiner for Suffolk County North.

SOCIETY MEETINGS

January 19—New England Women's Medical Society. Detailed notice elsewhere on this page.

January 24—Harvard Medical Society. Complete notice appears elsewhere on this page.

January 26—Meeting of the Association of Boards of Health. Detailed notice appears elsewhere on this page.

January 27—Boston Medical History Club. Detailed notice appears elsewhere on this page.

January, February, March and April, 1928—Last Saturday at 11 A. M. Cheever Amphitheatre, Staff Clinical Meetings at Boston City Hospital.

February 6—New England Heart Association. Detailed notice appears elsewhere on this page.

February 6, 7, and 8—Annual Congress on Medical Education, Medical Licensure, and Hospitals. Complete notice appears on page 1382, this issue.

DISTRICT MEDICAL SOCIETIES

Essex North District Medical Society

May 2, 1928 (Wednesday)—Annual meeting at Haverhill, 12:30 P. M.

May 3, 1928 (Thursday)—Censors meet for examination of candidates at Hotel Bartlett, 95 Main Street, Haverhill, at 2 P. M. Candidates should apply to the Secretary, J. Forrest Burnham, M.D., 567 Haverhill Street, Lawrence, at least one week prior.

Essex South District Medical Society

February 1 (Wednesday)—Council meeting, Boston.

February 8 (Wednesday)—Danvers State Hospital. Clinic at 4 P. M. Buffet supper at 6 P. M., followed by

Dr. Abraham Myerson, "Some Aspects of Mental Hygiene."

Discussion by Drs. W. F. Wood of Hathorne and G. M. Kline of Beverly, 10 minutes each, and from the floor.

March 7 (Wednesday)—Lynn Hospital. Clinic at 5 P. M. Dinner at 7 P. M.

Dr. Henry R. Viets, "The Acute Infections of the Nervous System," with lantern slides and moving pictures.

Discussion by Drs. W. V. McDermott of Salem and J. W. Trask of Lynn, 10 minutes each, and from the floor.

April 11 (Wednesday)—Essex Sanatorium, Middleton. Clinic at 5 P. M. Dinner at 7 P. M.

Dr. Raymond S. Titus, "Obstetrical Emergencies."

Discussion by Drs. J. J. Egan of Gloucester and A. T. Hawes of Lynn, 10 minutes each, and from the floor.

May 3 (Thursday)—Censors meet at Salem Hospital for the examination of candidates at 3:30 P. M. Candidates should apply to the Secretary, Dr. R. E. Stone, Beverly, at least one week prior.

May 8 (Tuesday)—Annual meeting. Place and speaker to be announced.

Middlesex North District Medical Society

January 25—Detailed notice appears on page 1339 of this issue.

Suffolk District Medical Society

Combined meetings of the Suffolk District Medical Society and the Boston Medical Library will be held at the Boston Medical Library, 8 The Fenway, at 8:15 P. M., as follows:

January 25, 1928—General meeting in association with the Boston Medical Library.

Dr. George W. Crile, Lakeside Clinic, Cleveland, Ohio. Title to be announced later.

February 29—Surgical Section. Subject to be announced later.

March 28—Medical Section. "The Use and Misuse of Vaccines." Dr. Hans Zinsser, Dr. Francis M. Rackemann, Dr. Charles H. Lawrence.

April 25—Annual meeting. Election of officers. Paper of the evening to be announced later.

The medical profession is cordially invited to attend these meetings.

Notices of meetings must reach the JOURNAL office on the Friday preceding the date of issue in which they are to appear.

BOOK REVIEWS

Clinical Diagnosis by Laboratory Methods. By JAMES CAMPBELL TODD, PH.B., M.D., and ARTHUR HAWLER SANFORD, A.M., M.D. Philadelphia and London: W. B. Saunders Company. 1927.

This book now in its sixth edition is characterized by an excellent choice of material and presentation. An unusual number of recent advances in this rapidly growing field have been incorporated. Those methods in laboratory technique which show promise as well as those which have now become fairly well universalized have been included. Among these may be mentioned the Van der Bergh test for serum bilirubin, the Kahn flocculation test for syphilis, Rosenthal's liver function test, and the Dick test for scarlet fever.

As a "working manual of clinical pathology" the authors have limited the bibliography to an irreducible minimum, thus eliminating excessive bulk. The interpretive discussions are accurate and concise. The illustrations are numerous, excellently chosen and well reproduced. A few omissions deserve mention. The role of calcium in clinical medicine and pediatrics is assuming sufficient importance to warrant inclusion in the section on blood chemistry. The discussion of blood typing might have been simplified graphically and there is a paucity of bone marrow description. The Price-Jones measurement of red cells augurs to become a fixture in careful blood studies. There is a wealth of easily accessible material in this book and it will prove of value to any physician who maintains an interest in the laboratory phase of medicine.

Fighters of Fate. By J. ARTHUR MYERS, M.D. Baltimore, Md.: The Williams & Wilkins Company. Price, $3.00.

I am well acquainted with Dr. Myers' other books on the chest and diseases of the chest but found this particular volume, "Fighters of Fate," even more interesting. The sketches of the 24 individuals, each of them very well known and each of whom either has tuberculosis or has died of tuberculosis, are naturally brief but are written in a breezy, colloquial style which makes the reading easy and distinctly interesting. I am not at all sure but that it would have been just as well for him to have omitted those who are still living, but, after all, I presume there is no reason for us to wait until a person is dead before saying nice things about him.

This volume makes interesting reading for any medical man and indeed for anyone else, and I can heartily recommend it.

The Surgical Clinics of North America. October, 1927. Volume 7, Number 5. Pacific Coast Surgical Association Number.

This little volume of 266 pages with 132 illustrations is dedicated to the memory of Lord Lister on the centennial of his birth and is introduced by a contribution by Dr. Edgar L. Gilcreest on "Lord Lister and the Renaissance of Surgery."

The volume conforms to the type of those preceding it and contains several articles of much value and interest.

Of particular interest are those of Dr. R. C. Coffey on cancer of the pelvic colon and rectum, which gives a recital of seven illustrative cases and a concise résumé; of Dr. Frank Hinman on the significance of pain in the differential diagnosis of kidney and ureteral lesions from intra-abdominal; Dr. W. A. Morrison on diaphragmatic hernia; and of Dr. J. T. Mason on radical amputation of the breast, done exclusively with the cautery.

The remaining articles are very brief and more or less résumés in character.

Your Growing Child. By H. ADDINGTON BRUCE. Price $2.50. 417 pages. New York: Funk & Wagnalls Company, 1927.

This new volume of Mr. Bruce's seems to the reviewer to fill a perfectly definite need. Any parent who can follow the advice given deserves to have successful children. Mr. Bruce does not make the job of being a parent easy. He demands honesty, intelligence, culture, tolerance, and other admirable qualities. On the other hand, he makes no attempt to convert his readers to any one of the schools of psychiatric thought.

It was perhaps a bit ambitious of Mr. Bruce to add chapters on the medical care of children, but all his information in these pages is taken from books by doctors who write for the laity, so that no valid objection can be raised.

On the whole, this volume can be cheerfully and even enthusiastically recommended. The criticism which will, of course, be made by the more sophisticated that it is simply "common-sense" seems to this reviewer a good and sufficient cause for approving the book.